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See also back page

1 A 12
[TLC analysis of cyclamate in foods.]
Hayashi, T.; Watanabe, H.; Yamamoto, M.; Tanimura, A.
Journal of the Food Hygienic Society of Japan [Shokuhin Eiseigaku Zasshi] 11 (2) 93-97 (1970) [10 ref. Ja, en] [Nat. Inst. of Hygienic Sci. Kamiyoga, Setagaya-ku, Tokyo, Japan]

Samples of liquid food are acidified with 10% H_2SO_4, saturated with $MgSO_4$ and the cyclamate extracted with ethyl acetate. Ethyl acetate is removed from the extracts under reduced pressure, and the residue dissolved in a small portion of ethanol. Solid foods are homogenated with water, and cyclamate dialyzed using a cellulose tube or a collodion tube, and the outer solution obtained by dialysis is treated in the same manner as liquid foods. The ethanol solution is spotted on a silica gel plate, and developed with benzene/ethyl acetate/formic acid (10:7:3). The developed plate is sprayed with a solution of 2% o-toluidine in ethanol and 1% H_2O_2 solution, and then kept at 40°C. After 10 min, cyclamate appears as a blue spot. ⩾5 Mg of cyclamate can be detected by this method. TM

1 A 24
[GLC of sodium cyclamate. II.]
Kato, S.; Kaneko, T.; Tanimura, A.
Journal of the Food Hygienic Society of Japan [Shokuhin Eiseigaku Zasshi] 11 (2) 98-102 (1970) [20 ref. Ja, en] [Nat. Inst. of Hygienic Sci., Kamiyoga, Setagaya-ku, Tokyo, Japan]

Cyclamate in foods is reacted with HNO_2, and the cyclohexyl nitrite produced extracted with n-hexane, and injected into a GLC. For some kinds of foods, room temp. reaction gave better % recovery of cyclamate than the reaction in ice water. The lower the content of cyclamate in foods, the lower the % recovery of cyclamate became. The % recoveries of 3 mg sodium cyclamate/10 g sample were: 10% sugar solution, 100; 30% sugar solution, 93; 50% sugar solution, 91; sweetened condensed milk, 91; strawberry jam, 90; Azuki-an, 82; milk chocolate, 70; hard biscuits, 101; Kamaboko (steamed fish cake), 82; Tsukudani (anchovy), 66; Miso (soy paste), 55; Shoyu (soy sauce), 80; Worcs, sauce, 83. The method was applicable in the range of 10-50 ppm. [See J. Food Hyg. Soc. Japan, (1967) 8:345 for part 1.] TM

1 G 9
Dietetic confections.
Anon.
Confectionery Production 37 (8) 495-496 (1971) [En]

Precipes and production notes are given for the following dietetic confections: chocolate, sugarless gums, sugarless pastilles, low calorie pralines for chocolate centres, meringues, biscuits and sugarless high boilings. BFMIRA

1 G 18
Development and consumer evaluation of soft-serve frozen desserts.
Loewenstein, M.; Dell, W. J.
Food Product Development 5 (2) 32, 34 & 36 (1971) [5 ref. En] [Univ., Athens, Georgia, USA]

A standard soft serve frozen dessert containing 4% fat, 10% milk SNF, 17% sweetener and 0.5% stabilizer/emulsifier was modified and test samples subjected to consumer preference tests. The altered mixes contained 4% milk fat; 1% milk fat + 3% vegetable fat; or 4% vegetable fat. The vegetable fat, chosen after 20 sources had been evaluated was a highly refined coconut oil. In addition, the final formulation contained a 60:40 blend of sucrose-dextrose syrups as this was found to give a better flavoured product than the usual sucrose-glucose syrup blend. Melt down tests showed that the mixes had nearly equal resistance. The consumer preference tests showed that there was no preponderance of preference for any one sample, with the all vegetable fat and the all milk fat samples receiving exactly the same totals. The authors concluded that the use of a fat which was more highly saturated than milk fat may be questioned nutritionally. JR

1 L 73
[Perspectives of "liquid sugars" in the food industry and the "Reggiane L.S." process]
Baldassari, P.
Industrie Alimentari 10 (7) 88-94 (1971) [15 ref. It, en] ["Reggiane" Off. Mecc. Iraliane SpA, Uff. Tec. Studi, Sez. Zuccherifici, Reggio Emilia, Italy]

An outline is given of the commercial production of syrups based on glucose, fructose and maize syrup, their uses in various food industries, and the annual production in a number of countries. The "Reggiane LS" process for the preparation of these syrups is described and is very useful for economical production of the syrups for the Italian food industry. Conc. solutions of sugar are treated with resins to remove impurities such as amino acids, mineral acids and salts, organic bases and acids etc. by passage through a series of 4 ion exchange resin filters. The resins are regenerated with 10-15% H_2SO_4 or 4-6% NaOO. In contrast with other processes, this process only needs 2-4 operatives, cuts industrial costs by 80% and gives an improved product. LA

1 L 74
Organoleptic effect in sugar structures.
Birch, G. G.; Lee, C. K.; Rolfe, E. J.
Journal of the Science of Food and Agriculture 21 (12) 650-653 (1970) [15 ref. En] [Nat. Coll. of Food Tech., Univ. of Reading, Weybridge, Surrey, UK]

Shallenberger's sweetness hypothesis is discussed and a new method for assessing its validity is offered by organoleptic examination of glycosidic structures. In particular the stable symmetrical disaccharide, α, α-trehalose presents an ideal model for these studies. An attempt to locate that part of the molecule which is specifically responsible for the sweet taste of sugars implicates the hydroxyl group on C atom No. 4 of pyranosides as playing an important role. AS

1 L 79
Chemistry of candy. VI. the effects of ingredients other than carbohydrates: invertase.
Cakebread, S. H.
Manufacturing Confectioner 51 (8) 32-35 (1971) [En] [Knechtel Lab. Ltd., Saltford, Bristol, UK]

During manufacture of fondant centres

invertase is often added after the candies are finished because at the time the centres are rolled, deposited or formed they remain firm enough to stand up to the processing and then soften during storage, while the production of invert sugar from the sucrose takes up some of the water and increases total dissolved solids. Rate of action of the enzyme depends on concn. of enzyme, temp., and amount of moisture. The softening of fondant centres by invertase is demonstrated using a worked example and the effects of increasing invert sugar content as the action of the invertase proceeds are followed. Use of humectants (invert sugar, sorbitol, glycerol) in candy is also briefly considered. [See FSTA (1971) 3 12L1042 for Part V.] PG SB

1 L 81
Physical properties of confectionery ingredients. Solubility effects.
Cakebread, S. H.
Confectionery Production 37 (9) 535-538 (1971) [En]

The influence of the humectants glycerol and sorbitol, and solutions containing >2 dissolved components are discussed and illustrated graphically. The effects of alcohol on the solubility of sucrose are similarly treated. The effects of sucrose on the solubility of other sugars, such as dextrose, are also considered with reference to tabulated data. BFMIRA

1 L 82
The influence of raw materials on the taste of confectionery.
Eijk, A. van
Food Technology in New Zealand 6 (6) 15, 17 & 19-21 (1971) [En]

In an introduction the author discusses the influence of raw materials used to make confectionery on its taste. He defines the following 4 broad categories: substances with a strong, direct influence on taste e.g. citric acid and synthetic sweeteners; substances with a strong, direct influence but also an indirect influence on taste e.g. sugar, in the broadest sense of the term, and butter; substances with a strong indirect physical influence on taste e.g. vegetable fats and emulsifiers; substances with a strong, indirect chemico-sensorial influence on taste, e.g. flavour intensifiers and antioxidants. The author continues with comment on the particular influences of sugar, sugar substitutes, food acids, fats, binding agents and emulsifiers, water and air, and softening agents. BFMIRA

1 L 92
[Modern techniques of sugar processing in the beverage industry.] Neuzeitliche Arbeitstechniken der Zuckerverarbeitung im Getränkebetrieb.
Kolber, A.
Mineralbrunnen 21 (9) 281-282, 284, 286, 288, 290 & 292 (1971) [8 ref. De]

Quality of raw sugar, production, utility value, chemical and physical properties of sugar varieties, microbiology, storage value, sweetness, transport of liquid sugar, cost and rationalization of manufacture are generally discussed. Typical compositions of different varieties of white sugar and liquid sugar, reciprocal effect on basic taste factors by variable proportion mixing of sweet, bitter, and salty components are tabulated, and diagrams of sucrose solubility in relation to taste intensity are given. OA

1 T 5
[Toxicology of cyclamates.] Toxikologie der Zyklamate.
Zbinden, G.
Bibliotheca 'Nutritio et Dieta 16: 38-49 (1971) [29 ref. De] [Inst. für Pathologische Anatomie, Univ., Zürich, Switzerland]

Metabolism, teratogenic activity, carcinogenic activity, mutagenic activity, mutations in cell cultures, cytogenic activity in plants, cytogenic activity in animal cell cultures and human cell cultures, cytogenic activity in animals, and cytogenic activity in humans were investigated. It was concluded on the basis of these experiments that the use of cyclamates by diabetics and adipose adults can be justifiable but excessive intake of cyclamate-containing drinks by children is inadvisable. OA

1 T 32
Safety of food additives and solvents.
Anon.
WHO Chronicle 25 (9) 409-411 (1971) [En] [World Health Organization, Geneva, Switzerland]

Brominated vegetable oils, cyclamates monosodium glutamate, Hg, asbestos, and extraction solvents, including petroleum hydrocarbon fractions, halogenated hydrocarbons, and impurities in solvents are briefly discussed. JN

1 T 33
Artificial sweeteners.
Imperial Chemical Industries Ltd.
British Patent 1 233 216 (1971) [En]

Artificial sweetening compositions are based on lower alkyl esters of L-aspartyl- L-(β-cyclohexyl) alanine. IFT

1 T 34
[Low-calorie sugar substitute containing sweeteners.] Kalorienarmes, süsstoffhaltiges Zuckeraustauschmittel.
Reinicke, H.; Leonhauser, S.; Schneider, W. (Deutsche Laevonsam-Gesellschaft F. C. Boehringer & Söhne GmbH & Co. KG)
West German Patent Application 1 961 769 (1971) [De]

Sugar substitute for sweetening food products consists of fructose and/or xylitol and saccharin in sweetening power ratio of between 50:50 and 90:10. The product has no undesirable aftertaste. W&Co

1 T 35
[Process for saccharin flavour improvement.] Verfahren zur Geschmacksverbesserung von Saccharin.
Scheide, J. (Haarmann & Reimer GmbH)
West German Patent Application 1 963 736 (1971) [De]

The flavour of saccharin and its sodium salt is improved by addition of substances such as α-amino glutaric acid, monosodium glutamate, inosine-5'- or guanosine-5'-monophosphoric acid or their disodium salts, either individually or as a mixture. The quality of the flavour is improved by use of α-amino acids, vanillin, ethyl vanillin, maltol or ethyl maltol. The saccharin is for

use in food products and pharmaceutical products. W & Co

1 T 66
[Determination of cyclamate in seasoning liquor.]
Sasaki, T.; Iwase, H.; Iikura, Z.
Seasoning Science [Chomi Kagaku] 17 (4) 108-111 (1970) [5 ref. Ja] [Kikkoman Shoyu Co., Noda, Chiba-ken, Japan]
Cyclamate was extracted from the sample liquid with ethyl acetate in the presence of HCl, decomposed by boiling with H_2O_2, and the cyclohexylamine liberated was estimated by the method of Ichikawa, Kojima, and Ichibangase [J. pharm. Soc. Japan (1964) 84: 563]. The conditions for determination were examined. Commercial Worcester sauce and soy sauce were analysed. SKa

1 U 25
Health laws and regulations - Switzerland.
World Health Organization
International Digest of Health Legislation 21 (4) 857-878 (1970) [En] [Geneva, Switzerland]
A selection of Swiss health laws and regulations is given, including the following which relate to food hygiene: Annex of 21 Oct., 1969 to the ordinance governing trade in foodstuffs and various consumer goods (list of max. legally authorized pesticide concn. and temporary practical residue limits on or in foodstuffs); order of the Federal Council of 21 Jan., 1970 to amend the federal ordinance on meat inspection; Order of 11 Feb., 1970 of the Federal Council to amend the ordinance governing trade in foodstuffs and various consumer goods with respect to artificial sweeteners. VJG

1 U 26
Health laws and regulations - United Kingdom.
World Health Organization
International Digest of Health Legislation 21 (4) 883-920 (1970) [En] [Geneva, Switzerland]
A selection of UK health laws and regulations is given, including the following which relate to food hygiene: Meat (Sterilization) Regulations 1969, Serial No. 871 of 1969; Food (Control of Irradiation, Amendment) Regulations 1969, Serial No. 1039 of 1969; Artificial Sweeteners in Food Regulations 1969, Serial No. 1817 of 1969 (these supersede the 1967 regulations and no longer permit cyclamic acid, calcium cyclamate and sodium cyclamate as artificial sweeteners or as permitted ingredients in artificial sweetening tablets); Soft Drinks (Amendment) Regulations 1964, Serial No. 1818 of 1969 which amends the 1964 regulations and exclude cyclamates from the list of permitted artificial sweeteners). VJG

1 U 31
Health laws and regulations - Uruguay.
World Health Organization
International Digest of Health Legislation 22 (2) 407-408 (1971) [En] [Geneva, Switzerland]
A selection of Uruguayan health laws and regulations is presented, including the following which relates to food hygiene: Decree No. 554/969 to prohibit the manufacture, marketing and use of beverages and foodstuffs containing cyclamates. VJG

2 D 103
[Development of the potato processing industry in Poland.]
Brzyski, W.
Przemysl Fermentacyjny i Rolny 15 (4) 21-25 (1971) [Pl]
The potato processing industry in Poland has made very rapid progress after being completely reconstructed. In cooperation with the Starch Research Institute, a project-design institute and appropriate engineering plants, new and modern production technologies have been introduced into the industry, e. g. processing of starch into syrups, dextrin and other modified preparations used in the food industry. Production of modern food products from potatoes has commenced. The problem of waste waters from starch plants has been solved by using them to irrigate agricultural land. STI

2 H 330
Soft drink concentrate.
Hoynak, P. X.
United States Patent 3 598 609 (1971) [En]
Unit portion packages of acidic liquid concentrates contain as sweetening agent 30-70% by wt. sucrose dissolved in a 25 DE (dextrose equivalent) starch hydrolysate syrup. IFT

2 H 355
Dehydrated tomato juice.
Booth, R. G.
British Patent 1 194 804 (1971) [En]
The patent covers water-dispersible mixtures of dehydrated tomato juice, edible acids, salt, artificial sweeteners, and cold water-soluble suspending agents. IFT

2 K 55
[Cocoa powder granulate which is readily soluble in liquids, and process for its production.] In Flüssigkeiten leicht dispergierbares Granulat auf der Basis von Kakaopulver und Verfahren zu seiner Herstellung.
Wagner, T. (Bensdorp GmbH Kleve)
West German Patent Application 1 692 512 (1971) [De]
A cocoa powder granulate with a particle size of $\geqslant 200\ \mu m$ contains $\geqslant 2.7\%$ (by wt.) maltose and/or sorbitol, and optionally 6-20% monosaccharide. It is produced by mixing together the cocoa powder and additive solutions before or during granulation, and drying the mixture. W&Co

2 L 140
[Isolation of D-xylose from sulphite waste.]
Paabo, G. J.; Uesson, A. M. (Sydkemi AB)
Swedish Patent Application 336 993 (1971) [Sv]
Crystalline D-xylose is isolated from a sugar-containing crude concentrate obtained as a waste material during the production of sulphite pulp by extracting the crude concentrate with azeotropic isopropyl alcohol, concentrating the extract and dissolving the concentrate in 95% ethyl alcohol. The D-xylose is suitable for use as a sweetener in diabetic foods. W&Co

2 L 143
Sweet syrups.
Walon, R. (Corn Products Co.)
Canadian Patent 877 950 (1971) [En]
Sweet syrup is produced by the interconversion of dextrose. Deanionization of a starch conversion

syrup by electrodialysis or ion exchange, prior to isomerization, permits production of sweet syrups having improved properties. IFT

2 L 144
Syrup production.
Corn Products Co.
British Patent 1 239 776 (1971) [En]
A dextrose solution is subjected to electrodialysis to reduce its anion concn. prior to interconversion to ketose in the preparation of sweet syrups containing ~12% laevulose. IFT

2 L 154
Marshmallow: technology and methods of manufacture.
Minifie, B. W.
Manufacturing Confectioner 51 (4) 31-37 (1971) [14 ref. En] [Div. of Knetchel Res. Sci., Inc., Saltford, Bristol, UK]
Manufacture of various types of marshmallow is described, with reference to recipes, types of mixing and beating equipment, and properties of ingredients (corn syrups, dextrose, invert sugar, egg albumen, agar, gum arabic, gelatin, and modified milk and soy proteins). Factors reducing shelf-life are discussed; these include deterioration due to high moisture content, poor drying conditions, microbial degradation of whipping agents, oxidation of ingredients, crystallization of sugar, loss of aeration, and the anti-foam action of fats, oils and essential oils. Recommendations include efficient plant hygiene, sterilization of equipment and pasteurization of ingredients susceptible to microbial contamination. ATDW

2 L 166
[Industrial derivatives of sugar and its by-products.]
Ortiz-Villanueva, B.
Boletin Azucarero Mexicano 1971 (256) 14-16 (1971) [Es]
A review of sugar cane by-products is given under the subtitles: (i) chemical reactions of sugars; (ii) fibres; (iii) filtration residues; (iv) molasses; (v) various. (i) includes oxidation - reduction by-products e.g. sorbitol and gluconic acids; esterification, condensation and alkaline or acid decomposition products. (ii) lists the uses of the crushed fibrous residue as a combustible, in paper manufacture, furfural and animal feed production. From (iii) waxes and manures are obtained and (iv) are used in the distillation and fermentation industries. Economic conditions required before undertaking cane by-product production are discussed. SAH

2 L 171
Some industrial aspects of the enzymic degradation of starch.
Manners, D. J.
Biochemical Journal 123 (2) 1P-2P (1971) [8 ref. En] [Dept. of Brewing and Biol. Sci., Heriot-Watt Univ., Edinburgh EH1 1HX, UK]
Production of glucose and glucose syrup by degradation of starch with amyloglucosidase (i) is discussed, with reference to acid and enzymic gelatinization and solubilization of starch, problems of transglucosidase activity of (i) preparations, and binding of (i) to DEAE (ion exchange) cellulose. Replacement of malt by ungerminated grain and enzymes in brewing is discussed. Starch granules in unmalted grain may not be wholly accessible to amylolytic degradation, as endosperm cell walls contain β-glucan and hemicelluloses. These polysaccharides also give a high-viscosity wort, leading to filtration problems. Brewing with Brew-n-zyme, a bacterial enzyme preparation with amylolytic, proteolytic, β-glucosidase and endo-β-glucanase activity is briefly described; the beers produced have satisfactory analytical and organoleptic properties. AJDW

2 M 221
[Xylitol-sweetened baked goods.]
Eisai Co. Ltd.
Japanese Patent 25 704/71 (1971) [Ja]
Sponge cake composition employ xylitol in place of sugar to yield a product which may be eaten by diabetics and which has improved quality. IFT

2 P 176
[Process for producing an alcohol-free cream-like drink.] Verfahren zur Herstellung eine alkoholfreien Cremegetränkes.
Schütz, H. J.
West German Patent Application 1 951 842 (1971) [De]
A sugar-starch mixture is prepared, to which a pectic substance is added as emulsifier while the mixture is continuously agitated. After a flavouring has been admixed, the pH is adjusted to 4 and sorbic acid is introduced as preservative. The mixture is then heated to ~50°C and a vitamin solution containing vitamin A, E, thiamine, riboflavin, B_6 and ascorbic acid is admixed. The product is further heated to 60°C, held at this temp. for ~1 h, and cooled gradually to 25°C with agitation. Suitable flavouring substances are cocoa powder, an emulsion of condensed milk and water, or fruit and condensed milk treated in a colloid mill. For diabetics, a mixture of sodium cyclamates and saccharin sodium is used. The beverage is suitable for children, old people and athletes. W&Co

2 T 89
[Sweetening agents used in soy sauce. Supplement.]
Onishi, T.
Seasoning Science [Chomi Kagaku] 17 (1) 30-34 (1970) [6 ref. Ja] [Prefecture of Fermentation, Food Expt. Sta., Takamatsu, Japan]
Use of dulcin, and then sodium cyclamate was prohibited in soy sauce. Formerly standard sweetness was obtained by adding 150 g cyclamate and 15 g saccharin, to 180 l. soy sauce. If added singly, 57 g saccharin, 150 g Glycyrrhiza flake, or 15 kg sucrose is necessary. Sucrose and Glycyrrhiza flake are much more expensive than saccharin. Addition of more than 150 g saccharin causes bitterness. SKa

2 T 98
Sugar substitute.
Garbrecht, W. L. (Eli Lilly & Co.)
United States Patent 3 597 234 (1971) [En]
5-(3-hydroxyphenoxy)-1H-tetrazole is prepared by reaction of resorcinol monoacetate with cyanogen bromide in the presence of triethylamine sodium azide, followed by hydrolysis under basic conditions. IFT

2 T 110
[Seasonings.]
Ogawa, H.
Japanese Patent 25 692/71 (1971) [Ja]
Powdered seasonings for use in the preparation of soy sauce, mayonnaise and other foods are prepared by combination of glacial acetic acid and phosphates with spices, sweetenings, thickeners and the like. IFT

2 T 119
[Method for producing a sweetener composition.]
NV Organon
Netherlands Patent Application 6 918 568 (1971) [Nl]
The litter aftertaste of pure saccharin or its Na salt is prevented by addition of 0.2-2.0% by wt. of a bitter tasting compound, preferably magnesium sul hate, senna leaves, or quinine salts. Quinine sulphate is preferred in combination with the Na salt of saccharin because of their similar solubility characteristics. An anhydrous sweetener composition is produced by heating an alcoholic solution of the components. This solution may be used as such or be incorporated into effervescent tablets. The Na salt of saccharin may be precipitated from an aqueous solution also containing the dissolved bitter component; this component is then retained int he water of crystallization. A saccharin + Na salt of saccharin + quinine sulphate mixture is particularly suitable for sweetening tea. W&Co

2 U 100
Specification for calcium saccharin, food grade.
India, Standards Institution
Indian Standard IS: 5709-1970 8pp. (1970) [En]
Price Rs. 2.50 [Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 1, India]
This standard, adopted in July 1970, prescribes the requirements and methods of sampling and test for food grade calcium saccharin. Requirements cover solubility in water, identification, composition, packaging, storage and marking, sampling and tests. Compositional requirements are: purity (as $C_{14}H_8CaN_2O_6S_2$, on dry basis, % by wt.), $\geqslant 95$; moisture (% by wt.), $\leqslant 15$; readily carbonizable substances, to pass prescribed test; benzoate and salicylate, to pass prescribed test; As (mg/kg), $\leqslant 3$; Pb (mg/kg), $\leqslant 10$; Se (mg/kg), $\leqslant 30$. Appendices detail methods for determination of purity, moisture and Se, and tests for readily carbonizable substances and benzoate and salicylate. JA

3 L 200
Raw materials from maize starch.
Anon.
Food Processing Industry 40 (480) 36-37 (1971) [6 ref. En]
Production of glucose syrups, starches and dextrose from maize, and their food applications are considered. Progress made in this field since 1958, price fluctuations and future prospects are discussed. VJG

3 L 217
Physical properties of confectioionery ingredients. Viscosity of carbohydrate solutions. II.
Cakebread, S. H.
Confectionery Production 37 (11) 662-665 (1971) [En]
The viscosity of carbohydrate solutions is discussed in conjunction with: graphs showing the relationship between viscosity and concn. of dextrose, laevulose, invert sugar, sucrose, 42 dextrose-equivalent glucose syrup and 63 dextrose-equivalent glucose syrup at 25°C; the relationship between viscosity and concn. of solutions of sucrose, glucose syrup and mixtures at 20°C; and the variation of viscosity of sucrose and glucose syrup solutions with temp. (See preceding abstr.) BFMIRA

3 L 219
Enzymatic production of fructose.
Anon.
Sugar y Azucar 66 (9) 22, 24, 50 & 53 (1971) [10 ref. En & Es]
80% of the 2 million tons of sugar consumed annually in Japan is imported, so glucose, with a sweetness 60-70% that of sucrose, is often used as a substitute. A method has now been developed for producing glucose isomerase from Streptomyces in a medium containing xylan or xylan-containing materials (wheat bran, corn cob, corn hull etc.). The isomerase is purified by acetone fractionation, DEAE cellulose and sephadex column chromatography and used to convert glucose into fructose. A typical flow diagram of the process is shown. PG

3 L 255
[Decomposition of reducing sugars in an alkaline medium.]
Roche, M.
Industries Alimentaires et Agricoles 88 (7/8) 981-983 (1971) [7 ref. Fr, de, en]
Practical effects of interconversions between glucose, fructose and mannose, and decomposition of hexose sugars to acids when heated in an alkaline medium are discussed. In the interconversion of glucose to fructose, the rate of degradation of fructose is faster than that of glucose, but interconversion of fructose to glucose is faster than the reverse. Thus glucose accumulates to reach a glucose: fructose value of 2.5. Decomposition of hexoses by heat to produce various acids results in lower pH, darker reducing power and increased brown colour.

Zollner (pp. 54-59); Comparison of sweetening capacity of raw sugar, cyclamate, and a mixture of cyclamate and saccharin, by A. Fricker & J. Gutschmidt (pp. 60-64, 3 ref.); Toxicology of sweeteners, by F. Bar (pp. 65-78, 50 ref.); Relative value of sugar-replacers and sweeteners in a diabetic diet, by H. Mehnert (pp. 79-84); Review of cyclamates and other sweeteners in international legislation, by W. Schultheiss (pp. 85-92); The fate of cyclamates in the organism, by H. J. Dengler (pp. 93-100); Recent scientific and legal aspects of cyclamate, by R. G. Wiegand (pp. 101-103, En); Teratological examination of sweeteners, by D. Lorke (pp. 104-109, 9 ref.); [Continued in following abstr.] OA

4 G 196

[Low calorie and calorie-free foods.] Calorienarme und calorienfreie Lebensmittel. [A symposium]
Zollner, N. (Germany, W., Gesellschaft fur Ernährung) (Editor)
Wissenschaftliche Veröffentlichungen der Deutschen Gesellschaft für Ernährung 20: viii + 143pp. (1971) [Numerous ref. De] [Med. Poliklinik, Univ., 8 Munich 15, W. Germany]

[Continued from preceding abstr.] Toxicology of the cyclamates, by P. H. Derse (pp. 110-118, 7 ref., En); Question of physiological coagulation effect of cyclamates, by H. Egli (pp. 119-124, 1 ref.); Chromosomal effects of cyclohexylamine, by L. Schoeller (pp. 125-127, 1 ref.); Circulation effects of cyclohexylamine and the effect of this substance on the activity of catecholamine, by P. Marquardt & H. G. Classen (pp. 128-137, 8 ref.); and The final report of a three-yr clinical study of cyclamate, by N. Zollner & M. Pieper (pp. 138-141). OA

4 H 545

[Determination of cyclamates in wine by IR spectrophotometry.]
Coppini, D.; Albasini, A.
Mitteilungen aus dem Gebiete der Lebensmitteluntersuchung und Hygiene **60** (6) 456-460 (1969) [4 ref. It, de, en] [Istituto di Chimica Farmaceutica e Tossicologica, Univ., Modena, Italy]

The sample (20 ml) ml, containing 3-15 mg of sodium cyclamate is evaporated to dryness in a nickel dish on a boiling-water bath. The residue is dissolved in H_2O and the solution is clarified by adding basic lead acetate solution (1.5 ml). After 10 min, saturated Na_2SO_4 solution (1.5 ml) is added to precipitate excess Pb, the solution is diluted to 25 ml and the liquid is filtered. To a 10 ml portion of the filtrate are added HCl (2 ml), light petroleum (boiling-range 30-50°C; exactly 1 ml) and 0.5^M $NaNO_2$ (1 ml); the mixture is shaken for 3 min and made up to 25 ml with H_2O. A measured portion of the light petroleum layer is withdrawn with a syringe and introduced into a 0.25 mm cell with CaF_2 windows, and the spectrum is recorded from 1800 to 1500 cm^{-1} against light petroleum. The extinction at 1650 cm^{-1} is measured, and the cyclamate content is obtained from a calibration graph prepared with wine containing added cyclamate. The graph is rectilinear for 1.2-6.0 mg of sodium cyclamate in the final solution. [Analyt. Abstr. (1971) **20** (3) 2105.]

4 H 583

Interference of sulphur dioxide in the determination of cyclamates by AOAC method 20.128.
Saturley, B. A.
Journal of the Association of Official Analytical Chemists **54** (6) 1449 (1971) [6 ref. En]
[Beecham Products, Res. & Development Unit, Royal Forest Factory, Coleford, Gloucestershire, UK]

SO_2, if present in cyclamate-free drinks, will give a positive reaction in AOAC method 20.128 for cyclamates. This communication is presented as a cautionary note. AS

4 L 356

Maltitol sweeteners.
Hayashibara Co. Ltd.
British Patent 1 250 952 (1971) [En]

Maltitol is used to increase the sweetness of food without increasing their calorific value. IFT

4 L 357

Lactitol sweeteners.
Hayashibara, K.
British Patent 1 253 300 (1971) [En]

Low-calorie foods and drinks are sweetened by incorporation of lactitol. IFT

4 T 210

Artificial sweeteners.
Kornfeld, E. C. (Eli Lilly & Co.)
United States Patent 3 615 700 (1971) [En]

The patent covers α-tetrazolyl-6-substituted-tryptamine and α-tetrazolyl-5-6-disubstituted-tryptamine compounds useful as non-nutritive sweetening agents. IFT

4 T 226

[New sweetening agents for foods.] Neue Süssmittel für Lebensmittel.
Seidemann, J.
Lebensmittel-Industrie **18** (11) 407-408 (1971) [13 ref. De, en, ru]

Novel sweetening agents and their uses in the food industry are reviewed, particularly sweeteners extracted from citrus fruit and miracle fruit, and those obtained by enzymatic degradation of starch. IN

4 T 227
Sweeteners in foods.
Nicol, W. M.
Process Biochemistry **6** (12) 17-19 (1971) [12 ref. En]
Sucrose, starch hydrolysates, fructose, honey, sorbitol and other sweeteners such as saccharin, dihydrochalcones and ammoniated glycyrrhizin, are briefly discussed. Characteristics which must be considered when using these sweeteners include intensity of sweetness, solubility, viscosity, nutritive value and cost. Applications mentioned include confectionery, beverages, baking, preservation (canned fruit and vegetables and condensed milk), use of artificial sweeteners in ice cream and allied products and use of sugar as a flavour enhancer and as a trace ingredient to provide a natural source of browning in meat, fish and poultry preparations. AB

4 T 270
[Enhancement of sweeteners.]
Takeda Chemical Industries Ltd.
Japanese Patent 39 062/71 (1971) [Ja]
The sweetening capacity of synthetic or natural sweeteners is enhanced by incorporation of chalcones or dihydrochalcones. IFT

4 T 271
[Sweetening compositions.]
Nihon Shiryokogyo Co. Ltd.
Japanese Patent 37 231/71 (1971) [Ja]
Enzymic process is described for converting starch to fruit sugar-containing sweeteners. IFT

4 T 272
Artificial sweeteners.
Krbechek, L. O.; Inglett, G. (International Minerals & Chemical Corp.)
United States Patent 3 625 700 (1971) [En]
A new artificial sweetener, 2',4',6',3-tetrahydroxy- 4-n-propoxydihydrochalcone 4'-β-neohesperidoside, is useful as a sugar substitute and sweetening agent. IFT

4 U 191
Food standards in the UK.
Pearson, D.
Process Biochemistry **6** (12) 13-15 (1971) [1 ref. En] [Nat. Coll. of Food Tech., Univ., Reading, UK]
Control of food composition and purity in the UK is discussed with reference to the Food and Drugs Act, 1955; mention is also made of the Food Standards Committee, which is concerned with regulations regarding Labelling and advertising of foods. Definitions and brief legislative details of the following terms are included: additives; preservatives; colours; emulsifiers and stabilizers; flavouring agents; solvents; bleachers and improvers; artifical sweeteners; and contaminants. AB

5 E 201
[Aids to refrigeration: physical and chemical treatments, and types of mechanical protection.]
[A review]
Munoz-Delgado, J. A.
Proceedings of the International Congress of Refrigeration (12th Madrid) **3**: 15-35 (1967, publ. 1969) [66 ref. Fr, en] [Centro Expt. del Frio, Madrid, Spain]
Methods of improving the storage life of refrigerated or frozen foodstuffs are discussed. Mention is made of physical (heat) treatments, including blanching of vegetables and immersion of oranges in warm water; chemical treatment with antiseptics in solution or gas form, antibiotics, antioxidants, sweetening agents and growth inhibitors; and mechanical protection with wrappers, packaging and coatings. MEG

5 G 276
Whipped topping mixtures.
Fuji Oil Co. Ltd.
British Patent 1 256 053 (1971) [En]
Whipped topping composition contain fats or oils having an mp of ≥10°C, up to 3% phospholipids and an edible surface active agent which is a fatty acid ester of polyglycerol, polyoxyethelene sorbitan, sorbitol, sucrose and a monoglyceride of malic or citric acid. IFT

5 G 277
Gelatin desserts.
Rowntree Mackintosh Ltd.
British Patent 1 255 391 (1971) [En]
Dry powdered gelatin dessert compositions contain a carbohydrate sweetener mixture, a part of which is a hydrolysis product of starch having less sweetening powder than sucrose. IFT

5 H 698
Sweetness values for saccharin for selected soft drink flavours.
Kunst, E. A.
American Soft Drink Journal **125** (909) 99-101 (1971) [En] [Liquid Carbonic Corp., Chicago, Illinois, USA]
As a result of the removal of cyclamate as an artificial sweetener, the merits and drawbacks of saccharin as a sweetening agent for soft drinks have been re-examined. Sweetness values for saccharin at the range of sucrose concn. typical of soft drinks (8.8-13.5% sucrose) were defined as wt. of

sucrose wt. of saccharin, and determined using a 10% saccharin solution. The relationship between sucrose and saccharin at these concn. was found to be almost linear, with an average sweetness value for saccharin of 300. Preparation of orange drink, root beer and quinine tonic using sucrose and saccharin to an equivalent sweetness showed the sweetness value of saccharin to depend significantly on the flavour under consideration. Predictions are made for sweetness values for other flavours. PG

5 H 759
[Wine improvement.]
Eisai Co. Ltd
Japanese Patent 41 598 71 (1971) [Ja]
Colour, taste, fragrance, body and texture of wines are improved by substitution of xylose for the glucose normally used for preparing wines. IFT

5 K 81
[Grape sugar chocolate: possibilities and problems.]
Traubenzuckerschokolade: Möglichkeiten und Probleme.
Volker, H. H.
Süsswaren **15** (22) 918-920 (1971) [De]
Traditional production of a high grade grape sugar chocolate containing virtually only dextrose as sweetening agent involves less than max. retention of crystallization water content of the dextrose, the cocoa mass first being conched, and the dextrose then being incorporated at 35-45°C. The resultant mass, after rolling, is liquefied in a melangeur or drum grinder at 38-42°C and then made into slabs without any need for tempering. New developments since 1965 make use of dextrose freed from molecularly bound water of crystallization by drying, which simplifies the process. Water-free dextrose, unlike hydrated dextrose, can be ground without difficulty in standard sugar mills. Flow characteristics, colour, organoleptic quality and storage life were other criteria of quality. IN

5 K 82
[Additives in the production of cocoa products.]
Garduno, A.
Tecnologia de Alimentos **5** (6) 20-22, 24 & 26-28 (1970) [4 ref. Es]
The use of additives in the manufacture of products from cocoa is discussed, the additives being divided into the following categories: flavourings, colorants, taste enhancers, sweeteners, antioxidants, viscosity regulators and fat antibloom agents. HBr

5 L 398
Chemistry of candy. VII. Products containing milk solids.
Cakebread, S. H.
Manufacturing Confectioner **51** (10) 44, 46 & 48 (1971) [3 ref. En] [Knechtel Res. Sci., Inc., Saltford, Bristol, UK]
Procedures for calculating the equilibrium relative humidity (ERH) of candy containing milk solids (e.g. fudge) are discussed. The addition of glycerol increased the content of dissolved solids and reduced both the ERH and the tendency of the fudge to dry out. Similar results could be obtained by replacing 42 dextrose equivalent (DE) with 63 DE corn syrup in the formula. To avoid microbial deterioration, fudges should not generally be packaged in impermeable foil unless it is in complete contact with the surface of the candy. Calculation of the ERH for candies containing fruit solids, or for cream pastes (made from powdered sugar, corn syrup and gelatin or gum), nut pastes and lozenges is also mentioned briefly. [For Part VI see FSTA (1972) **4** 1L79] MEG

5 L 416
Dextrose-containing syrups.
Dworschack, R. G.; Nelson, C. A. (Standard Brands Inc.)
United States Patent 3 630 845 (1971) [En]
In a process for preparing dextrose-containing syrups, ClO_2 is incorporated during enzymic hydrolysis to inactivate the enzyme when the dextrose content reaches a predetermined level. IFT

5 L 417
A study of the rate of gain or loss of moisture from sugar and sugar confectionery products during storage.
Norrish, R. S.
Research Report, British Food Manufacturing Industries Research Association **No. 144** 25 pp. (1969) [4 ref. En] Price £1.25 [British Food Manufacturing Ind. Res. Assoc., Randalls Road, Leatherhead, Surrey, UK]
Results are presented of a study on the effects of different humectants on the rate of moisture loss or gain from confectionery products under controlled temp. and RH conditions. The humectants studied were glucose syrup, invert sugar, dextrose, laevulose, sorbitol and glycerol. Their effects have been examined in fondant, marshmallow, gelatine jellies and boiled sweets, and also in saturated sugar syrups. The report includes a description of a novel dew-point method for the accurate measurement of RH in confined spaces. BFMIRA

5 S 532
[Additives, adjuvants, and residues in meat and meat products.] Zusatzstoffe, Hilfsstoffe und Rückstände in Fleisch und Fleischwaren
Mirna, A.
Wiener Tierärztliche Monatsschrift **58** (11) 396-402 (1971) [35 ref. De, en] [Bundesanstal für Fleischforschung, Inst. für Chemie und Physik, Blaich 4, D-865 Kulmbach, W. Germany]

The topic is reviewed under the following headings: additives and adjuvants (foreign proteins, and nitrites, nitrates and smoking); pesticide residues (organochlorine compounds, possibilities for decontamination of foods, and review of the contamination situation); and contamination from industry (e.g. with Pb and Hg). JA

5 T 285
Honey-malt flavour.
Mitchell, W. A.; Stahl, H. D. (General Foods Corp.)
United States Patent 3 622 349 (1971) [En]
Low-calorie food flavouring and texture-enhancing material is prepared by drum drying an aqueous solution of low jelly grade pectin and artificial sweeteners. IFT

5 T 292
A new sugar substitute.
Mazur, R. H.; Craig, T.
American Soft Drink Journal **125** (909) 94-95 (1971) [En] [Fermco Lab., Div. of G. D. Searle & Co., Chicago, Illinois, USA]
Research has shown aspartylphenylalanine methyl ester to be 100 times as sweet as sucrose, through the natural configuration of the aspartic acid and phenylalanine is critical and α-carboxyl must be part of the peptide bond. Other related dipeptides containing aspartic acid have also been shown to be sweet, through Asp-Phe-OMe (APM) was selected for eventual commercialization because of superior intensity of sweetness and stability of the compound. Sucrose and up to 15% saccharin can be added to APM without adverse effect on flavour characteristics. APM will cyclise to the corresponding diketopiperazine or hydrolyse to the dipeptide, but tests have shown no taste deterioration in a carbonated orange drink after 6 months storage at room temp. TLC and GLC for detection of methyl alcohol are also being used for tests on stability. Optimum pH for stability appears to be approx. pH 3. Toxicology tests are being carried out on rat, hamster and dog. PG

5 T 300
[Food additives.]
Kilikidis, S.
Ellenike Kteniatrike **14** (3) 195-208 (1971) [14 ref. Gr, en]
Food additives such as natural and synthetic colours, preservatives, antioxidants, emulsifiers, sweeteners, flavour enhancers, and flavours are reviewed. The public health aspects as well as problems of detection and measurement are emphasized. The regulations governing the use of food additives in Greece are also discussed. NM

5 T 301
Glycine as a masking agent for saccharin.
Colburn, C.
American Soft Drink Journal **126** (915) 16 (1971) [En] [Chattem Drug & Chem. Co., Chattanooga, Tennessee, USA]
An interim tolerance of 0.2% glycine has been approved by FDA for use in carbonated beverages as a masking agent for the bitter after-taste of saccharin. Availability of glycine in various foods is mentioned, and its major uses as a flavouring agent in "marrying" flavours, as an antioxidant in fats and oils and as a flavour improver for beverages and sauces are listed. PG

6 L 438
Starch conversion syrups.
Hurst, T. L.; Larson, R. F.; Turner, A. W. (A. E. Staley Manufacturing Co.)
United States Patent 3 630 844 (1971) [En]
Starch conversion syrups having a min. fermentable extract (FE) value of 77%, a min. dextrose equivalent (DE) value of ~68% and a max. dextrose content of 47% are produced by saccharification of a starch hydrolysate with an enzyme composition comprising a diastase, glucoamylase and amylo-1,6-glucosidase. IFT

6 L 445
Foam-spray drying using a centrifugal atomiser.
Brennan, J. G.; Priestley, R. J.
Process Biochemistry **7** (3) 25-26 (1972) [9 ref. En] [Nat. Coll. of Food Tech., Weybridge, Surrey, UK]
A description is given of a system of foam-spray drying in which an actively-growing foam, produced by the evolution of CO_2 from the interaction of sodium bicarbonate and citric acid, was fed to a centrifugal atomizer. This resulted in a product with increased particle size and lower bulk density as compared with unfoamed feed; glucose powders produced by this method reconstituted more rapidly than powders produced by conventional spray-drying. AB

6 L 450
[Rational use of sugar types, for production of sweets.] Rationeller Einsatz von Zuckersorten bei der Bonbonherstellung. [A lecture]
Schiweck, H.; Kolber, A.
Gordian **72** (2) 41-50 (1972) [15 ref. De] [Zentral. der Süddeutschen Zucker-AG, Obrigheim, German Federal Republic]
Rationalization of manufacture of hard sweets by using special types of sugar e.g. liquid sugar, glucose syrup, mixed sucrose and glucose syrup, is discussed with reference to product quality and cost reduction. Storage tests on mixed syrups, stability of sugar in sweet masses made with mixed syrups and importance of physico-chemical characteristics, solubility, crystallization, hydrolysis (inversion), viscosity and hygroscopicity are discussed and results from previously published reports are presented graphically and in tables. Mathematical relationships for predicting rate of hydrolysis, viscosity and hygroscopicity (equilibrium moisture) of sugar syrups under specified conditions are given. RM

6 L 485
Starch conversion syrup.
Bodnar, D. A.; Hinman, C. W.; Nelson, W. J. (Standard Brands Inc.)
United States Patent 3 644 126 (1972) [En]
An aqueous slurry of starch is treated with a starch-liquefying enzyme to obtain a dextrose equivalent of <35. This liquefied starch slurry is then digested with glucoamylase and malt enzymes to obtain a conversion syrup having <45% dextrose and sufficient maltose to provide ≥85% total fermentable sugar. IFT

6 P 885
[Process for producing a cultured milk product, the acidity of which does not increase after termination of the ripening process.] Verfahren zur Herstellung eines nach einem Reifungsprozess nicht nachsäuernden Sauermilcherzeugnisses.
Hinterwaldner, R
West German Patent Application 1 952 361 (1971) [De]
The object is to produce cultured milk products which will not sour during storage under normal commercial conditions. This is claimed to be achieved by using bifidus bacteria in addition to normal starter organisms, e.g. Streptococcus lactis, Str. cremoris, Str. thermophilus, Lactobacillus bulgaricus, L. casei Leuconostoc spp. and kefir organisms. Growth-promoting agents, e.g. yeast extracts or autolysates, may be added to accelerate acid production during incubation. In an example of application, pasteurized milk, pre-concentrated to ~15% TS was incubated with 6% starter consisting of bifidus bacteria and Str. thermophilus (ratio 1:1) at 42°C for 3 h and cooled then to 10°C. Normal yoghurt made from the same batch of milk, using normal starter (L. bulgaricus and Str. thermophilus), was used for comparison. Data show that on storage under the same conditions (temp. 5°C for 14 days, 20°C for 8 days and 5°C for 14 days), the pH of the experimental product remained throughout at 4.2 whilst that of normal yoghurt fell to 3.3. Dietetic bifidus cultured milk may be made with fructose and artificial sweeteners. FL

6 P 913
Process for preparation of milk crumb compositions.
Rusoff, I. I. (Nabisco Inc.)
United States Patent 3 622 342 (1971) [En]
A process for the manufacture of an improved milk crumb composition, containing 50-70% of a sweetening agent, 25-45% of milk solids and 2.5-7.5% of chocolate liquor, involves the steps of blending the dry ingredients, passing the mixture through an extruder with the addition of 1-3% of water and at a temp. of 245-255°F for 1-3 sec., cooling the extrudate to 65-75°F and comminuting the cooled extrudate to an extent sufficient to allow 60% to pass through a 60 mesh screen. A typical milk crumb composition contains 60.85% (by wt.) of sucrose, 5.0% chocolate liquor, 9.73% butter oil and 24.42% dried skim-milk. FJM

6 P 936
[Fermented milk drink.]
Hida, M.
Japanese Patent 17/72 (1972) [Ja]
An animal milk base containing divalent Mn and Sn ions is cultured with a lactic acid bacillus, after which it is combined with sweeteners and flavouring agents to yield a fermented acid milk dirnk. IFT

6 T 325
Toxicological evaluation of some extraction solvents and certain other substances.
Food and Agriculture Organization; World Health Organization
FAO Nutrition Meetings Report Series **48A:** 131pp. (1971) [Numerous ref. En] [Rome, Italy]
In a series of monographs, biochemical and toxicological evaluations are given for: brominated vegetable oils; calcium cyclamate and sodium cyclamate (including cyclohexylamine); Cu and $CuSO_4$; ethyl maltol; food grade mineral oil; monosodium glutamate; oleoresins of paprika; phosphoric acid, phosphates and polyphosphates; Sn and $SnCl_2$; activated vegetable carbon (food grade); tannin (food grade); acetone; 1,2-dichloroethane; dichloromethane; ethanol; methanol; petroleum hydrocarbon fractions (hexane and heptane); propan-2-ol; and trichloroethylene. The allocation of acceptable daily intakes is discussed briefly, and recommended amounts are given. JN

6 T 328
Carcinogenic and teratogenic aspects of saccharin.
Lessel, B.
SOS/70 Proceedings, 3rd International Congress of Food Science and Technology **1970**: 764-770 (1971) [18 ref. En] [Res. Dept., Boots Pure Drug Co. Ltd., Nottingham, UK]
The carcinogenic potential of saccharin was studied in Boots Wistar rats by maintaining groups of 20 males and 20 females on dietary concn. of 0, 0.005, 0.05, 0.5 and 5% for 2 yr. A positive control group received subcutaneous injections of trypan blue, 10 mg every 2 wk for 1 yr. At the 5% level there was higher mortality and retarded growth despite greater food consumption, whereas levels of 0.5% or less were without effect. Tumour incidence was unaltered at all levels. Trypan blue induced liver reticulum cell sarcomata. The influence of saccharin sodium on prenatal development was investigated in Californian rabbits given 600 mg/kg/day from day 1 to 29 of pregnancy. The mothers had depressed body-wt. gain in the 1st week and gastric lesions. There were no adverse effects on litter size, foetal mortality or foetal wt., and no induced foetal abnormalities. When male and female rats were fed on 1% of saccharin in the diet for 60 premating and 14 postmating days, fertility and litter size at birth were unaffected. AS

6 T 347
Isolation and characterization of the sweet principle from Dioscoreophyllum cumminsii (Stapf) Diels.
Wel, H. van der
FEBS Letters **21** (1) 88-90 (1971) [8 ref. En] [Unilever Res., Vlaardingen, The Netherlands]
The isolation and characterization of the sweet principle from the fruit of Dioscoreophyllum cumminsii (Stapf) Diels, is described. The results reveal that the substance, which has a sweetness intensity of ~1500 × that of sucrose on a weight basis, is a protein; this is proved by the strong absorption maxima at 278 and 288 nm, by the biuret reaction, by the staining with Amido Black, and the disappearance of the sweet taste after incubation with trypsin. AB

6 T 362
Artificial sweeteners.
G. D. Searle & Co.
British Patent 1 256 995 (1971) [En]
Artificial sweetening compositions comprise mixtures of saccharin with dipeptides, such as L-aspartyl-L-phenylalanine methyl ester. IFT

6 T 363
Artificial sweeteners.
G. D. Searle & Co.
British Patent 1 258 248 (1971) [En]
Artificial sweetening compositions are based on dipeptides such as L-α-aspartyl-L-hexahydrophenyl-alanine esters. IFT

6 T 364
Purification of monellin, the sweet principle of Dioscoreophyllum cumminsii.
Morris, J. A.; Cagan, R. H.
Biochimica et Biophysica Acta **261** (1) 114-122 (1972) [16 ref. En] [School of Med., Univ. of Pennsylvania, Philadelphia 19104, USA]
The intensely sweet principle from the fruit of the tropical plant Dioscoreophyllum cumminsii Diels has been isolated. The sweet principle, herein named monellin, is purified from aqueous extracts by $(NH_4)_2SO_4$ fractionation and ion-exchange chromatography, first on DEAE-cellulose, and then on CM-cellulose. The yield is over 50% and the material is homogeneous by disc gel electrophoresis. Monellin is non-dialysable, shows a strong absorption in the ultraviolet (λ_{max} = 277 nm), and reacts with common protein reagents. Purified monellin is free of carbohydrate (<5 μg/mg protein). The evidence indicates that monellin is a protein. AS

6 U 377
Food additives. Saccharin, ammonium saccharin, calcium saccharin, and sodium saccharin.
Anon.
Federal Register **37** (21, Feb. 1) 2437-2438 (1972) [En]
Limitations are placed on the use of the title compounds under the Federal Food, Drug and Cosmetic Act as follows: as a sweetening agent in special dietary foods, in beverage, fruit juice drinks, and bases and mixes at a max. level (calculated as saccharin) of 12 mg/fl oz; as a sugar substitute for cooking or table use at a max. level of 20 mg/teaspoonful of sugar sweetening equivalency; and in processed foods at a max. level of 30 mg/serving of designated size. It may also be used for the following technological purposes: to reduce bulk and enhance flavours in chewable vitamin and/or mineral tablets; to retain flavour and physical properties of chewing gum; and to enhance flavour of flavour chips used in non-standardized bakery products. HBr

6 U 408
Health laws and regulations - Belgium.
World Health Organization
International Digest of Health Legislation **22** (3) 411-414 (1971) [En] [Geneva, Switzerland]
A selection of Belgium health laws and regulations is presented including the following which relate to food: Crown Order of 7 Nov., 1969 to amend the Crown Order of 31 Mar., 1954 relating to trade in cows' milk (prohibits dairy farmers from supplying milk directly to the consumer if the livestock on the farm are not tuberculosis free or if they are suffering from, or suspected of suffering from, brucellosis); Crown Order of 1 Dec., 1969 embodying regulations concerning deep-frozen meat (including a list of types of meat which may not be used for deep-freezing, and details of the health of animals before slaughter, hygienic conditions for abattoirs, personnel and retail premises); Crown Order of 19 Dec., 1969 to amend the Crown Order of 8 July, 1955 relating to trade in artificial sweeteners and foodstuffs which have been artificially sweetened (makes the provision that only the artificial sweeteners authorized under the Law of 20 June, 1964 for use in foodstuffs, may be sold, displayed, held or transported with a view to sale or delivery). VJG

6 U 409
Health laws and regulations - Canada.
World Health Organization
International Digest of Health Legislation **22** (3) 415-450 (1971) [En] [Geneva, Switzerland]
A selection of Canadian health laws and regulations is presented including the following which relate to food: Food and Drug Regulations (amendments for 1968-1971 relating to irradiation of flour, food additives, natural colours, saccharin and its salts, vitamins, mineral nutrients, amino acids etc.); Fish Inspection Regulations, SOR/68-177 (these regulations replaces the Fish Inspection Regulations of 11 May, 1967 and are applicable only in respect of fish and containers intended for export and import); Animal Contagious Diseases Regulations, SOR '68-490, are amended by the insertion of an additional heading 'Inedible rendering'; Canada Dairy Products Regulations are amended, SOR/69-432, by the insertion of a new

section (Registration and Operation of Establishments) which lays down that every person who operates an establishment and sells or offers for sale any dairy product, in interprovincial trace or for export from Canada, must hold a certificate of registration; Egg Product Regulations, SOR/69-476, supersede the Frozen Egg Regulations SOR/49-124 (these relate to grades and standards, registration and operation of egg product stations, packing and imports); Meat Inspection Regulations are amended SOR 70-26, (principal amendments relate to the definition of 'animal' and 'meat food product', importation of meat products, and inspection of whales). VJG

7 G 375
[Technological possibilities of manufacturing calorie reduced foods.] Technologische Moglichkeiten der Herstellung kalorienverminderter Lebensmittel.
Drews, H.
Ernährungs-Umschau **19** (2) 38-39 (1972) [10 ref. De] [53 Bonn-Bad Godesberg, Tulpenbaumweg 17, German Federal Republic]

The technological methods currently in use for the production of foods with a reduced calorie content are: substitution of fat by water and, optionally, indigestible fillers and thickeners, by protein or by carbohydrate; substitution of carbohydrates by water or by indigestible fillers; substitution of sugar by sweetening agents; and removal of alcohol. The use of these methods is reviewed. HBr

7 H 1027
Trends in the carbonated beverage industry.
Hall, J. R.; Swaine, R. L.
CRC Critical Reviews in Food Technology **2** (4) 517-536 (1972) [29 ref. En] [Canada Dry Corp., Greenwich, Connecticut, USA]

Historical, processing, bottling, marketing and legal aspects are extensively reviewed under the headings: closures; acids; artificial sweeteners; carbon dioxide and carbonation; colours; flavours; sugar; preservatives and antioxidants; water; machinery and equipment; control instrumentation, plant and laboratory; trends in legislation and regulations; environmental protection; unit pricing; and FDA review of GRAS list. OA

7 H 1091
Beverage concentrates.
Balakian, G.
British Patent 1 262 235 (1972) [En]

The patent covers compositions capable of providing with water a palatable, non-irritating drink to replenish fluids and salts lost through perspiration. The beverage consists of ≥1 soluble sodium salt, ≥1 soluble potassium salt, a preservative, ≥1 edible acidulant compound and ≥1 sweetening agent. IFT

7 H 1097
[Recent developments in the citrus industry.] Neuere Entwicklungen in der Citrusindustrie. [A lecture]
Pilnik, W.
Flüssiges Obst **38** (11) 504-511 (1971) [54 ref. De] [Landwirtschaftliche Hochschule, Abt. für Lebensmittelwissenschaft, Wageningen, The Netherlands]

The following recent developments in the citrus industry are reviewed: reduction of the acid content of the fruit by N_2 treatment; reduction of the acid content of the juice by electrodialysis through selective membranes; isolation of aroma constituent; cloud stability; flavanone and limonin as contributors to bitterness of citrus juices; production of sweetening agents from flavanones; and analysis of citrus juices (correlation between contents of different constituents). JMS

7 L 514
[Experiments on improving filtration of starch syrup.] Versuche zur Verbesserung der Filtration von Stärkesirup.
Hersiczky, A.
Stärke **24** (3) 84-89 (1972) [9 ref. De, en, fr] [Zentralforschunginst. für die Lebensmittelind., Herman Otto ut 15, Budapest II, Hungary]

In view of its unsatisfactory filtration rate (FR), the starch syrup produced by a commercial batch process (acid hydrolysis prior to amyloglucosidase action) was investigated. Microscopial examination showed the product to be nonhomogeneous, with intact starch grains. The relation between FR and dextrose equivalent (DE) showed that FR rose more rapidly at DE <46 than >46. Electrokinetic properties varied, with DE showing greatest increase (mV) at DE 27-34. As suspended matter inhibiting filtration could not be reduced to <5% by continuous mechanical stirring, a gel separation unit for continuous operation, max. capacity 10 000 l./h, and suitable for all types of reactor and hydrolysis was constructed. With single passage operation this purification unit removed 94% of suspended matter from upper, middle and lower regions of the hydrolysate and increased output of the filter station by 50%. RM

7 L 541
Ion exclusion.... an overlooked ally.
Zievers, J. F.; Novotny, C. J.; Selvick, E. A.
Sugar Journal **34** (9) 7-10 (1972) [9 ref. En] [Industrial Filter & Pump Mfg. Co., Cicero, Illinois, USA]

Separation of ionic from non-ionic solutes on 50-100 mesh Dowex 50W-X4 resin and its application to ion exchange in the sugar industry are discussed and described. Brix, ash, pol, and pH of affination syrup and blackstrap molasses, and the sequence for ion exclusion are given. When applied to blackstrap molasses, ion exclusion and decolorization can produce a potential liquid invert sugar [illegible]

colour bodies remaining in the solution are not easily removed. Double-use of regenerant NaCl (or sea water) considerably reduced overall cost of full utilization of ion exchange resins. OA

7 L 553
[Fractionation of starch syrups using gel filtration.]
Buriankova, M.
Listy Cukrovarnicke **87** (11) 251-254 (1971) [8 ref. Cs, en, de, ru] [Cokoladovny, Oborovy Podnik, Prague-Modrany, Czechoslovakia]

When candies are produced on a continuous line the processing conditions differ from those of the common production process. Studies were made of physical and chemical properties of glucose syrups manufactured by acid hydrolysis, as used in candy manufacture, and of maltose syrups, considered to be more suitable for the continuous process due to their lower viscosity. Fractionation using gel filtration showed that in syrup manufactured by the enzymatic method, lower sugars were formed at the expense of higher sugars, while in syrups manufactured by acid hydrolysis the concn. ratio of the sugar fractions was almost equal. The difference is mainly in the region of polymerization grade 2-7. The ratio of monosaccharides and disaccharides affects the character of syrups and consequently of products containing them. STI

7 T 378
[Hygienic evaluation of cyclamates.] Beitrag zur hygienischen Beurteilung von Cyclamat.
Wolf, A.; Hrivnak, D.; Malkus, Z.
Nahrung **15** (4) 363-366 (1971) [22 ref. De, en, ru] [Lehrstuhl für Ernährung und Lebensmittelhygiene, Karls-Univ., Prague, Czechoslovakia]

Animal studies showed that cyclamate cannot be regarded as completely harmless from the health viewpoint; that commercial cyclamate preparations are not completely stable; and that sodium cyclamate, cyclohexylaminosulphonic acid and cyclohexylamine have distinct cytotoxic effects at concn. of 1.0, 0.5 and 0.02% respectively. IN

7 T 406
Sweeteners in food.
Nicol, W. M.
Food Manufacture **1972** (March, Ingredient Survey) 21-22, 24 & 51 (1972) [12 ref. En] [Res. Centre, Tate & Lyle Ltd., Keston, Kent, UK]
See FSTA (1972) **4** 4T227.

7 T 408
Application of column and thin-layer chromatography to the detection of artificial sweeteners in foods.
Takeshita, R.
Journal of Chromatography **66** (2) 283-293 (1972) [14 ref. En] [Dept. of Public Health Pharmaceutics, Inst. of Public Health, 4-6-11, Shirokanedai, Minato-Ku, Tokyo, Japan]

Details are given of a method for the purification and detection of the 3 artificial sweeteners, saccharin, cyclamate and dulcin, in food products. The sweeteners are separated from other impurities by extraction with ethyl acetate and by adsorption on and elution from silica gel and alumina columns, followed by TLC using polyamide. The sweeteners were detected by spraying with one of the three chromogenic spray reagents, MR-BCG, Pinacryptol Yellow or p-dimethylaminobenzaldehyde, after pre-observation under UV light; these reagents had sensitivity ranges from 0.01 to 2.0 μg of the sweeteners. In order to detect the sweeteners in food products containing other additives, the influence of 8 food preservatives and 20 dyes on the detection was investigated; among these compounds it was found that only salicylic acid, Eosine and Rose Bengal interfered with the detection of saccharin. Various foods, including tomato and orange juice, milk, ice-cream, canned fruit, and biscuits, containing levels of 10-100 ppm of sweeteners were successfully analysed for the sweeteners. AB

7 T 409
[Foaming agents.]
Dai-Nippon Sugar Manufacturing Co. Ltd.
Japanese Patent 4979/72 (1972) [Ja]

Food foaming agents are produced by mixing a surface active agent, a potentiating agent such as a sugar or a polyalcohol, and ≤15% propylene glycol or ethyl alcohol. IFT

7 U 502
Food and agricultural legislation.
Food & Agriculture Organization
Food and Agriculture Legislation **20** (2) 1-71 (1971) [En] [Rome, Italy]

The second of the two 1971 selections of food and agricultural laws and regulations of international significance include the following: Belgium - Royal Order on the organization of control for hard cheese varieties (Feb., 1971), Royal Order relating to internal trade and to trade within member countries of the EEC in certain fishery products (March, 1971), Ministerial Decisions relative to the authorization of the use of food additives in foodstuffs (19 April, 1971, including antioxidants, preservatives, emulsifiers, stabilizers, acids, bases and mineral salts, sweeteners, taste enhancers, quinine and salts, maltol, ethylmaltol, colours), Ministerial Order amending that of 18 Sept., 1967 establishing the list of additives authorized in foodstuffs and substances for use as food (relates to polyphosphates), Ministerial Decisions relative to the authorization of the use of additives in foodstuffs (3 June 1971, amend Ministerial Decisions of 19 April, 1971 relative to the use of thiobendazole, lecithin, tricalcium and disodium phosphates); Italy - Regulation relating to modified starches intended for human consumption (3 May, 1971, schedule lists starches, modification processes and use limitations), Ministerial Decree relative to quality standards for citrus (13 May, 1971, including quality specifications sizing, tolerances, packaging and presentation, labelling); Madagascar - Order

No. 1299, relating to import and export of animals, animal products etc. [Continued in following abstr.] VJG

7 U 503
Food and agricultural legislation.
Food & Agriculture Organization
Food and Agriculture Legislation **20** (2) 1-71 (1971) [En]

[Continued from preceding abstr.] Malaysia - Fish Marketing Scheme under the Federal Agricultural Marketing Authority Act, 1965 (15 March, 1971 - relates to wholesale fish markets, ice factories etc.); Sale of Food and Drugs (Amendment) Regulations, 1971 (specifications in respect of soft drinks, artificial sweeteners etc.); Niger - Act No. 71-1 to institute the Niger Milk Board (OLANI). Decree No. 71-32 PRN/MER issues Statutes of the Niger Milk Board (OLANI); Philippines - Administrative Order No. 132 (prescribes the standards of identity and quality of milk and milk products); Rhodesia - Act No. 25 of 1971: Food and Food Standards Act, 1971 (provides for the sale, importation and manufacture for sale of food in a pure state, and prohibits the sale, importation and manufacture for sale of food which is falsely described); USA - Egg Products Inspection Act, 29 Dec., 1970; and Yugoslavia - Regulations amending and supplementing the regulations on the quality of fruit, vegetables and mushrooms and of products thereof - 4 Feb., 1971. VJG

7 U 521
Cranberry juice, cocktail.
United States of America, General Services Administration
Federal Specification **Z-C-1651** 10pp. (1971) [En] Price 15 cents

This Federal Specification, issued on July 6th 1971, covers the requirements for cranberry juice cocktail for use by agencies of the Federal Government as follows: documents forming part of the specification; material requirements (cranberry juice, sweetening ingredients, ascorbic acid); finished product requirements; workmanship; Federal Food, Drug and Cosmetic Act; quality assurance provisions (sampling, inspection e.g. of factories, ingredients, process, end product, packaging, and containers, test methods); preparation for delivery (packaging, packing, labelling and marking); ordering data; and supplier's and destination inspection. JA

7 U 539
[Ethyl alcohol and alcoholic beverages: identification of artificial sweeteners.]
Roumania, Institutul Roman de Standardizare
Roumanian Standard **STAS 184/16-70** 3pp. (1970) [Ro] [Bucharest, Roumania]

This standard partly replaces **STAS 184-54** and **STAS 4500-54** and covers both natural distilled and manufactured alcoholic beverages. Regulations on identification of artificial sweeteners such as saccharin and dulcin, fraudulently added to alcoholic beverages, by the sweet taste of a suitably prepared extract of the beverage are listed. SKK

7 U 558
[The Danish food laws.] [A lecture]
Jorgensen, H. J.
Maelkeritidende **85** (16) 409-421 (1972) [Da]

A general outline is given of the current position in Denmark with regard to food legislation. Aspects discussed include antibiotics, antibiotic-destroying substances and hormones; antioxidants; emulsifiers; enzymes; dyestuffs; changes in redox potential in foods; preservatives; pH; odour and flavour compounds; stabilizers (binders) and thickeners (gelling agents); synthetic sweeteners; vitamins; pesticides; labelling of foods; food hygiene; and mental hygiene. HBr

8 A 342
New insight into senses of taste and smell.
Anon.
Chemical and Engineering News **50** (13) 41-42 (1972) [En]

Monellin, a natural sweetener of soluble protein nature, as much as 3000 times sweeter than an equivalent wt. of sugar, has been isolated from West African wild red berries, Dioscoreophyllum cumminsii. The importance of this, and other aspects of research into the mechanisms and functioning of the senses of taste and smell, at the Monell Chemical Senses Centre, Pennsylvania, are briefly discussed. AB

8 A 361
Food science. [A book]
Charley, H.
vi+520pp. (1970) [Numerous ref. En] New York, USA: Ronald Press Co. Price $8.50 [Oregon St. Univ., Corvallis, USA]

This well laid out textbook is designed to serve as a college text for a basic course in the study of foods. Fundamental theoretical and practical aspects of the subject are covered under the headings: Evaluation of food (pp. 3-28, 17 ref.); Measuring (pp. 29-34, 4 ref.); Heat (pp. 35-44, 9 ref.); Water (pp. 45-61, 6 ref.); Ice crystals and frozen desserts (pp. 62-71, 9 ref.); Sugar crystals and confections (pp. 72-90, 4 ref.); Brews and infusions (pp. 91-108, 9 ref.); Starch (pp. 109-128, 10 ref.); Cereals (pp. 129-141, 13 ref.); Flour (pp. 142-158, 14 ref.); Leavens (pp. 159-170, 11 ref.); Quick breads (pp. 171-190, 10 ref.); Yeast bread (pp. 191-213, 20 ref.); Fats (pp. 214-236, 22 ref.); Pastry (pp. 237-247, 12 ref.); Emulsions (pp. 248-259, 12 ref.); Milk (pp. 260-287, 24 ref.); Cheese (pp. 288-300, 7 ref.); Eggs (pp. 301-328, 29 ref.); Sponge and angel cake (pp. 329-339, 12 ref.); Shortened cakes (pp. 340-358, 20 ref.); Meat (pp. 359-394, 24 ref.); Poultry (pp. 395-402, 12 ref.); Fish (pp. 403-412, 16 ref.); Gelatin (pp. 413-417, 5 ref.); Legumes (pp. 418-424, 8 ref.);

Fruits (pp. 425-453, 25 ref.); Vegetables (pp. 454-486, 49 ref.); Fruit pectin gels (jellies) (pp. 487-500, 27 ref.). A 17-pp. subject index is provided. JN

8 G 405
Sugarless gum.
Bilotti, A. G. (Warner-Lambert Co.)
United States Patent 3 655 866 (1972) [En]
A sugarless gum containing a freely releasable form of dicalcium phosphate dehydrate is prepared by coating or agglomerating dicalcium phosphate dehydrate powder with a water-soluble polyol or combination of polyols, such as mannitol, sorbitol, xylitol or arabitol, prior to incorporation into the gum composition. IFT

8 G 407
Dietary cake mix.
Radlove, S. B.
United States Patent 3 658 553 (1972) [En]
Dietary dry cake mixes free of sugar have a sorbitol:flour ratio of 55-110:100. IFT

8 J 1273
[Some fruit products.] [A review]
Dupaigne, P.
Fruits **26** (10) 697-713 (1971) [93 ref. Fr, en, de, es, ru] [Inst. Francais de Recherches Fruitieres Outre-Mer, 6, Rue du General Clergerie, Paris (16e), France]
This review article discusses the use of various fruits as sources of food proteins (either directly, or indirectly from by-products of the canning industry), proteolytic enzymes, miraculin and natural sweeteners to replace cyclamates, anthocyanins, flavanoids, vitamin A, sterols, terpenes, coumarins, amines with pharmacological uses, and antibiotics. A list of 45 of the tropical fruits being studied at the IFAC is given. MEG

8 L 581
[Continuous cooking of toffee and soft caramel masses.] Kontinuierliches Kochen von Toffee- und Weichkaramelmassen.
Anon.
Kakao und Zucker **24** (3) 115 & 118-119 (1972) [De]
A modern continuous process of manufacture is described which is claimed to produce toffee equal in quality to hand-made products. The fat, sugar syrup, and milk products, with sorbitol or invert sugar if used, are first mixed together and homogenized. Dry sugar is mixed for 5 min and the whole passed to the first mixer-cooker. All remaining ingredients are now mixed in for 10 min (gelatin, fondant, flavourings etc.) and the mass heated to 70-80°C; this differs from conventional procedure. The mass is then transferred to a second mixer-cooker, where rapid final cooking and caramelization are completed, thence to a worm-type cooler and extruder for tempering; some ingredients may also be added at the cooling stages. Separate mixing, homogenization and preliminary cooking of the ingredients are stated to guarantee freedom from sugar crystals. A flow diagram of the equipment layout, ingredient lines and piston-type metering pumps is given. ELC

8 L 583
[New variations on the chewing-gum theme: buble gum and sugarless chews.] Neues zum Thema Kaugummi: Bubble-Gum und zuckerfreie Kaumassen.
Slawatychi, A.
Kakao und Zucker **24** (3) 100-102 & 104-105 (1972) [De]
The base material for manufacture of chewing gum and "buble gum" may be divided into 3 categories comprising: wholly "natural" products, e.g. various refined gums, egg albumen, sugar; mixed natural and synthetic products, e.g. gums (natural or synthetic), fats, paraffin wax (mp 48-72°C), microcrystalline waxes, beeswax, hardened vegetable fats and animal fats, vaseline, corn oil, glycerol, fillers and softening agents, methyl and ethyl cellulose; and entirely synthetic materials e.g. gums, latex, synthetic fats, oils, various cellulose derivatives, fillers and softeners. Characteristics and usage of the various products are discussed and detailed recipes are given (for chewing gum and bubble gum separately) for bases in each of the 3 categories, together with the methods of manufacture. Receipes are also given for acid "refresher" and for sucrose-free low calorie products. ELC

8 L 586
[The determination of equilibrium relative humidity and its effect on the shelf life of the product.] Die Bestimmungen des GF-Wertes und sein Einfluss auf die Haltbarkeit des Produktes.
Thieme, E.
Gordian **72** (4) 132-135 (1972) [1 ref. De]
The importance of equilibrium relative humidity (ERH value) on shelf life of confectionery products is discussed. Methods of measuring ERH are described, including that of Landrock & Proctor [Food Tech. (1951) **5**: 332-336], the SINA apparatus, and use of sorption isotherms illustrated by isotherms of full milk powder, glucose and a 3:1 mixture of sucrose and glucose syrup. ERH of manufactured products can be raised by addition of glucose syrup of low dextrose equivalent (38 DE, ERH 88.5), or lowered by fructose (ERH 80), dextrose (ERH 81) or sorbitol (ERH 82). In long term storage trials, no fungal growth occurred on inoculated samples of fondant at ERH <76.5 or marzipan at ERH <77.5. In view of seasonal fluctuations of air RH, corresponding changes in recipes of foamed products are recommended. RM

8 L 593
[Production of liquid sugar from sugarbeet molasses by the Reggiana L.S. process.]
Baldassari, P.
Sucrerie Belge **91** (1) 17-26 (1972) [7 ref. Fr, nl, en, de] [Societe Reggiana Officine Meccaniche Italiane Spa, Reggio Emilia, Italy]

A new process (Reggiana L. S.) is described for production of sucrose syrups from impure juices or molasses derived from beet or other vegetable sources. The process, developed on laboratory and pilot plant scales, is claimed to remove mineral impurities, polyphenols, caramels, melanoidins, amino acids, albumins, starches and pectins in a single process instead of the several separate standard processes now employed. The plant is simple, cheap, of small dimensions and requires little skilled labour. Thick juice or molasses is first diluted with water, then passed through 4 ion exchange resins, a decolorizing resin and 2 polar absorbents; the 7 reagents are packed in 4 percolation columns (purification units). An impure feed (30–40° Brix) is discharged as almost pure sucrose syrup (15-20° Brix), which is pasteurized and evaporated rapidly to 70-76° Brix and 99.7-99.9% purity. The ion exchange resins (selected to absorb strong and weak cations and acids) are regenerated by 8-15% H_2SO_4 and 3.5-6.0% NaOH; the absorption columns by a dil. (<1.0%) acid or base. Consumption of reagents is 0.707 kg H_2SO_4 and 0.332 kg NaOH/kg impurities removed. A molecular sieving effect is also claimed. A flow diagram is given, together with detailed graphs of reduction of conductivity, colour, starch and dextrins, xanthine and electrolytes in the purification unit discharges. Colour removal (to colourless or light yellow) is the most difficult stage. ELC

8 L 599
[Process for production of pure xylose from hemicellulosic material.] Verfahren zur Herstellung reiner Xylose aus hemicellulosehaltigem Material.
Schultze, H. J.; Moudry, R. (Inventa AG für Forschung & Patentverwertung)
Swiss Patent 514 675 (1971) [De]

Hemicellulosic vegetable material, e.g. hardwood, and agricultural waste products, e.g. stripped corncobs, bagasse or olive kernels, are extracted with 0.02-0.10% H_2SO_4 for ½-2 h, to remove unwanted substances. Then the material is hydrolysed for 4-14 h at 90-140°C, using 0.3-5.5% H_2SO_4. The resulting hydrolysate, which consists of pure sugar liquor, is neutralized to pH 6-7 with $Ca(OH)_2$ and the precipitated $CaSO_4$ is removed by filtration. Upon cooling, the xylose, containing only traces of other sugars, crystallizes, and may then be hydrogenated to produce xylitol (a sweetening agent for diabetics). W&Co

8 T 604
[Technique and technology of fondant manufacture.] Fondantherstellung - Technik und Technologie
Anon.
Kakao und Zucker **24** (4) 150-152 (1972) [De]

Composition and preparation of fondant mix, inter-dependence of cooling and crystallization factors and moisture content are discussed, and solubility and bp data of invert sugar and sucrose are given. Mechanized processing is described, with a schematic lay-out of a "Convectomat" installation. OA

8 T 445
Artificial sweeteners.
Braaten, W. C. (Alberto-Culver Co.)
Canadian Patent 895 815 (1972) [En]

Sucrose substitutes in the form of a cyclamate combined with a bulking agent or extender have the crystalline appearance of granulated sucrose. IFT

8 T 446
Artificial sweeteners.
Schmitt, W. H.; Lukey, R. A. (Alberto-Culver Co.)
United States Patent 3 653 922 (1972) [En]

Free-flowing granular low calorie sweetening compositions are obtained by double drum drying of aqueous solutions of starch hydrolysates containing non-caloric artificial sweeteners. IFT

8 T 447
Artificial sweeteners.
Schmitt, W. H.; Lukey, R. A. (Alberto-Culver Co.)
United States Patent 3 653 923 (1972) [En]

Synergistic sweeteners comprise mixtures of saccharin sweeteners and neohesperidin dihydrochalcone. IFT

8 U 596
[Food-legislative evaluation of sweet, non-alcoholic cloudy soft drinks.] Zur lebensmittelrechtlichen Beurteilung von in trüber Form hergestellten süssen, alkoholfreien Erfrischungsgetränken.
Benk, E.
Mineralbrunnen **22** (4) 124 & 126 (1972) [De]

German Federal Republic legislation in respect of fruit-based soft drinks is analysed and discussed with reference to composition, use of peel oil, artificial sweeteners, essences, emulsifiers, and colouring. Importation of sparkling soft drinks not containing fruit juice is examined in the light of the legislation. OA

8 U 597
World food law.
Anon.
British Food Journal **74** (848) 72-74 (1972) [En]

This is a review of existing legislation, based on FAO/WHO data, governing food additives and chemical residues in Finland, Italy, Yugoslavia, USA, New Zealand, Switzerland, Canada, Denmark, Norway, France and Luxembourg. The use of irradiation, sweeteners, colouring, preservatives, minerals, vitamin and emulsifiers, as applicable to each country, is discussed with

ference to quality, purity, and compositional equirements. The impact of EEC directives on ture international legislation is emphasized. OA

A 412
Economic applications of sweetness scales.
Moskowitz, H. R.; Wehrly, T.
Journal of Food Science **37** (3) 411-415 (1972) [17 ref. En] [Pioneering Res. Lab., US Army Natick Lab., Natick, Massechusetts 01760, USA]
A computer simulation of sweetness mixtures was made based upon empirical sweetness scales and experimentally derived models of sweetness additivity. 2 problems were investigated: total cost subject to maintaining overall mixture sweetness and its dual, total sweetness subject to maintaining the mixture's cost. Pairwise, mixtures of sucrose, glucose, fructose, sorbitol, sodium saccharin and sodium cyclamate were subject to analysis at a number of overall sweetness and cost levels. The results suggest that a computer scan of mixtures may yield specific mixtures satisfying cost or other types of constraints. IFT

9 G 454
Low fermentable products.
Smith, W. J.
Canadian Patent 899 143 (1972) [En]
The patent covers a food product in which the content of fermentable ingredients has been reduced to a level which provides less than ~5% yeast fermentability, and which contains a hydrogenated saccharied mixture in which sorbitol is present in a concn. of <85%. IFT

9 G 465
Facts behind the headlines.
Anon.
1547dc **No. 7**: 6-18 (1972) [19 ref. En]
Some background details are briefly presented under the headings: Vitamin C and the potato; Single-cell protein - which one do you mean?; Saccharin - the present position; Botulism; The occurrence and use of nitrates and nitrites in food. JN

9 H 1394
Quantitative determination of ammonium glycyrrhizinate by gas-liquid chromatography: collaborative study.
Larry, D.
Journal of the Association of Official Analytical Chemists **55** (3) 570-572 (1972) [En] [Div. of Food Tech., Food & Drug Administration, Washington DC 20204, USA]
Six samples of carbonated beverage were spiked at levels from 0 to 400 ppm with food-grade ammonium glycyrrhizinate and sent to 7 participating laboratories for collaborative study. To facilitate the analysis of samples containing microquantities of ammonium glycyrrhizinate, slight modifications were made in the published GLC method. Recoveries of ammonium glycyrrhizinate were 116.4, 102, 0, 93.4, 102.3, and 105.8% for 35, 100, 200, 300, and 400 ppm levels, respectively. The method has been adopted as official first action. AS

9 L 682
[Potential food applications of xylitol.]
Lebensmitteltechnologische Möglichkeiten bei der Verwendung von Xylit.
Kammerer, F. X.
Süsswaren **16** (1) 22 & 24-25 (1972) [12 ref. De] [Zuckerfabrik Franken GmbH, German Federal Republic]
The favourable physiological effect and the sucrose-like sweetening properties are said to be the main characteristics of xylitol from the viewpoint of its use in the food industry as a substitute for sugar. It has potential application in a wide range of dietary products, particularly confectionery, bakery products and soft drinks. IN

9 L 701
[Sugar substitutes in confectionery production.]
Zuckeraustauschstoffe bei der Süsswaren-Herstellung.
Kammerer, F. X.
Kakao und Zucker **24** (5) 184-186 & 188-190 (1972) [18 ref. De] [Zuckerfabrik Franken GmbH, Ochsenfurt/Main, German Federal Republic]
This paper, presented at the Association Internationale des Fabricants de Confisserie Symposium in Sollingen (GFR) in April 1972, discusses the use of sugar-substitutes permitted as dietetic foods in GFR under the headings of: importance of modern dietetics; objectives of dietetic foods; requisite properties of sugar-substitutes; occurrence, production, and physiological properties of sugar substitutes; analytical evaluation of sugar-substitutes; use of sugar substitutes in confectionery production; raw materials and semi-processed products; confectionery; and chocolates. Relative sweetness of sugars and sugar-alcohols, and viscosity values of xylitol and sorbitol solutions are tabulated, with graphs of calorific value of sugars, sugar alcohols, and their saturation potential in aqueous solutions. Graphs of isotherm adsorption of crystalline sugar substitutes and water uptake by sorbitol as a moisture-stabilizer in confectionery products are also presented. OA

9 L 706
[The determination of glucose syrup in jams, marmalades and jellies.]
Andreotti, R.; Castelvetri, F.
Industria Conserve **47** (1) 42-45 (1972) [5 ref. It, fr, en, de] [Sta. Sperimentale per l'Ind. delle Conserve Alimentari, Parma, Italy]
2 methods for determination of glucose in jams and jellies were compared. These were: (i) evaluation of fructose after hypoiodite oxidation (Willstätter-Schudel method) and deducting this value from the total glucose, the difference being attributed to added glucose; in (ii) total sugars are

determined, followed by enzymic degradation and reduction of twice the fructose figure from the total sugars to give the glucose addition. Both methods were used with model sugar solutions and laboratory prepared jellies, some with added glucose syrup. For one set of samples the theoretical contents of fructose was 28.40% and of glucose 36.60%. Corresponding experimental values were for (i) 27.97-28 22% fructose and 36.95-37.02% glucose; for (ii) they were 28.06-28.26% fructose and 36.74-36.94% glucose. Method (i) was considered to be more rapid and accurate. LA

9 M 998

Bakery technology and engineering. [A book]
Matz, S. A.
2nd edition 598pp. ISBN 0 87055 109 4 (1972) [Numerous ref. En] Westport, Connecticut, USA: AVI Publishing Co. Inc. Price $29.00 (US), $30.00 (Foreign) [Ovaltine Products/Div. of Sandoz-Wander, Villa Park, Illinois, USA]

This 2nd edition of the book first published in 1960 has been completely rewritten. The format is the same as that of the 1st edition but new chapters have been added and some of the original ones shortened. The purpose of the book is to provide those persons interested in bakery science with the principles of modern large-scale processing techniques. The book consists of the following 4 sections, each containing several chapters: The materials of baking (pp. 1-164); Formulations and procedures (pp. 165-257); Equipment (pp. 259-536); and Technical functions in bakery operations (pp. 537-587). The individual chapters are: Flour (pp. 1-23, 47 ref.); Water (pp. 24-34, 15 ref.); Leavening agents (pp. 35-48, 26 ref.); Sweeteners (pp. 49-60, 20 ref.); Shortenings, emulsifiers, and antioxidants (pp. 61-81, 23 ref.); Milk products (pp. 82-107, 26 ref.); Eggs (pp. 108-117, 17 ref.); Fruits and nuts (pp. 118-134, 10 ref.); Flavours and colours (pp. 135-148, 11 ref.); Minor ingredients (pp. 149-164, 16 ref.); Formulations and procedures for air-leavened, steam-leavened, and unleavened products (pp. 165-188, 26 ref.); Formulations and procedures for chemically-leavened bakery products (pp. 189-206, 23 ref.); Formulations and procedures for yeast-leavened bakery foods (pp. 207-236, 30 ref.); Formulas and procedures for making adjuncts (pp. 237-257, 20 ref.); Bulk handling of ingredients (pp. 259-276, 26 ref.); JA

9 P 1346

Alternatives to milk powder in ice cream recipes.
Crowhurst, B
Ice Cream and Frozen Confectionery **24** (5) 294-296 (1972) [En]

In this second article on the subject, ice cream mixes are suggested which contain the min. legal quantity of 7.5% milk SNF. The other solids required to 'balance' the mix are obtained by using lactose and powdered dextrose. Mixes are given for use in soft-serve, vertical, horizontal batch and continuous freezers. JR

9 T 482

Evaluation of food additives. Joint FAO/WHO Expert Committee on Food Additives. Fourteenth report.
Food and Agriculture Organization, Joint FAO/WHO Expert Committee
FAO Nutrition Meetings Report Series No. **48**
36pp. (1970) [En] [Geneva, Switzerland]

Principles governing the establishment of specifications for food additives and their toxicological evaluation were discussed and resolutions recorded. Items covered include toxic metabolites formed by the intestinal microflora (e.g. cyclohexylamine from cyclamate), difficulty of extrapolation of animal data to man, biological reactivity of chemically inert substances, and toxic products formed by interaction between an additive and a food constituent. Special consideration was given to solvents used in food processing, including measurement of residues in food; carcinogenic impurities (polynuclear hydrocarbons); and interaction between chlorinated solvents and proteins. Other additives or contaminants assessed in the light of toxicological data include: brominated vegetable oils (should not be used pending evidence of safety); cyclamates and cyclohexylamine; monosodium glutamate (aceptable daily intake (ADI) 0-120 mg/kg, except for infants); phosphates, ADI 0-30 mg/kg; filter and clarification aids (asbestos, activated vegetable carbon, tannins); Cu and Sn (no serious chronic or toxic effects); Hg (serious local contamination of fish due to environmental pollution); miscellaneous items. [For toxicological evaluations, detailed specifications for solvents and other additives and a review of technological efficity see following abstr.] Contamination by Hg is considered to be a serious and urgent problem. Further work is also needed to establish ADI values for wide range of possible additives and contaminants. ELC

9 T 483

Toxicological evaluation of some extraction solvents and certain other substances. Joint FAO/WHO Expert Committee on Food Additives. Fourteenth report.
Food and Agriculture Organization, Joint FAO/WHO Expert Committee
FAO Nutrition Meetings Report Series No. **48**
131pp. (1970) [En] [Geneva, Switzerland]

This publication is intended to be read in conjunction with the main Report on Evaluation of Food Additives [see preceding abstr.] Acceptable daily intakes (ADI) for man in mg/kg body wt are allocated for the substances considered as unconditional (adequate toxicological investigation and information on metabolic fate), conditional for specific purposes, temporary (available data not fully adequate and subject to additional information by a specified date), and no ADI (information grossly inadequate). Very full and detailed monographs on toxicological evaluations, which include biochemical data, acute toxicity, short-term and long term (when available) studies, observations in named experimental animals and in

man, a literature survey, requirements for further work and final evaluation are included for the following: brominated vegetable oils, cyclamates and cyclohexylamine (no ADI), copper and cupric sulphate, ethyl maltol, mineral oil, monosodium glutamate, paprika oleoresins, phosphoric acid and its salts, tin and stannous chloride, activated vegetable carbon, tannin, acetone, dichloroethane, dichloromethane, ethanol, methanol, hexane, heptane, propan-2-ol, trichlorethylene. In some cases no ADI is proposed when use of a substances is limited by good manufacturing practice or is self-limiting for organoleptic reasons. ELC

9 T 484
Specifications for the identity and purity of some extraction solvents and certain other substances. Joint FAO/WHO Expert Committee on Food Additives. Fourteenth report.
Food and Agriculture Organization, Joint FAO/WHO Expert Committee
FAO Nutrition Meetings Report Series No. **48B** iv+124pp. (1971) [En] [Rome, Italy]

This publication is intended to be read in conjunction with the main Report on Evaluation of Food Additives [see preceding abstr.]. Detailed specifications are given of food industry uses, identification tests, purity tests and specific standards, method of assay, and in some cases microbiological requirements for the additives cupric sulphate, curcumin, cyclamates and cyclohexylsulphamic acid, ethyl maltol, edible gelatin, food grade mineral oil, monosodium L-glutamate, oleoresin paprika, sodium caseinate, stannous chloridem turmeric and brominated vegetable oils (identification tests only); for the filtration agents activated vegetable carbon and tannins (tentative and restricted to hydrolysable tannins yielding gallotannins); and for the solvents acetone, 1,2-dichlorethane, dichloromethane, ethanol, methanol, hexane (tentative), heptane (tentative), propan-2-ol, and 1,1,2-trichlorethylene. Annexes prescribe further details of analytical procedures and manipulations, with descriptions and diagrams of apparatus to be used for the following determinations in the analysis of solvents: residue on evaporation; acidity and alkalinity; aldehydes and ketones; aromatic hydrocarbons; UV absorbance; and sulphur content. ELC

9 T 498
[Process for isolating a sweetener from Dioscoreophyllum cumminsii.] Verfahren zur Isolierung eines Süssstoffes aus Dioscoreophyllum cumminsii.
Reinicke, H. (Deutsche Laevosan-Gesellschaft C.F.; Boehringer & Söhne GmbH & Co. KG; Rubicon Handelsgesellschaft mbH.)
West German Patent Application 2 028 823 (1971) [De]

Edible sweetener for food products is isolated from the berries of the plant Dioscoreophyllum cumminsii. The berries are carefully stirred with water so that the pips do not crush, and after incubation with a protease, the aqueous extract is separated at least once using a molecular sieve. Extraction may be effected in the presence of pectinase at a temp. of 0 - 50°C. The extract is dried to produce a white, fibrous powder with a strong, sweet taste, the yield being 0.25 - 0.35% by wt. of the fresh berries. The powder is 800 - 1500 times as sweet as raw sugar, and has no bitter after-taste. W&Co

9 T 499
Artificial sweeteners.
Lilly & Co.
British Patent 1 269 851 (1972) [En]

Foods are artificially sweetened without bitter aftertaste by incorporation of derivatives of D-tryptophan. IFT

9 T 500
Artificial sweeteners.
Lilly & Co.
British Patent 1 269 852 (1972) [En]

Process is described for the preparation of 6-trifluoromethyl-tryptophan, useful as an artificial sweetener. IFT

9 T 516
Metabolic fate of saccharin in the albino rat.
Kennedy, G.; Fancher, O. E.; Calandra, J. C.; Keller, R. E.
Food and Cosmetics Toxicology **10** (2) 143-149 (1972) [10 ref. En, fr, de] [Ind. Bio-Test Lab., Inc., 1810 Frontage Road, Northbrook, Illinois 60062, USA]

Saccharin labelled with ^{14}C in the carbonyl group was administered orally to albino rats and the amounts excreted and retained in the body were determined by radioassay. A method was developed for the separation and quantitative determination of saccharin and its hydrolytic products, o-sulphamoylbenzoic acid and ammonium o-carboxybenzenesulphonate. It was found that almost all the saccharin was eliminated unchanged within 48 h, only traces of the other 2 compounds being found. No other derivatives of saccharin could be detected. A very small amount of o-sulphamoylbenzoic acid was detected in urine collected between 24 and 48 h after saccharin ingestion. The amount of saccharin or its metabolites retained in the body was negligible. AS

9 U 641
Mayonnaise, salad cream or dressing and sandwich spread.
Central Africa, Standards Association
Central African Standard **CAS No.S2: 1972** 18pp. (1972) [En] [PO Box 2259, Salisbury, Rhodesia]

This 1st revision of the standard published in Nov. 1966 covers the products named in the title, each of 1 type and grade, and lists definitions, requirements regarding factories and employees, ingredients, sweetenings, lemon juice, citric or tartaric acids, cream, physical, compositional, chamical and microbiological criteria, containers,

packaging, storage, labelling and marking, use of the Certification Mark, and sampling. It includes appendices on physical test methods, methods of chemical analysis and incubation and inspection of containers. Standards for the 3 products respectively include: total salt content, ≥1.0, ≥1.4 and ≥2.0%; total acid as acetic acid, ≥0.75, ≥1.5 and ≥1.6%; total fat content, ≥52.0, ≥31.5 and ≥16.0%; pH, max. 4.0 for all 3; viable yeasts, moulds, aciduric bacteria and pathogenic organisms, no tolerance. SKK

10 G 512
Low bound-fat puddings.
Germino, F. J.; Caracci, J. R. (CPC International Inc.)
United States Patent 3 671 269 (1972) [En]
Process is described for preparation of puddings by cooking together a mixture of milk, sweetener, flavouring agent and a starch of reduced bound-fat content achieved by high temp. solvent extraction. IFT

10 J 1564
Utilization of corn-sugar in canned vegetables.
Begum, J. A.; Weckel, K. G.
Pakistan Journal of Scientific and Industrial Research **14** (4/5) 405-410 (1971) [10 ref. En] [Dept. of Food Tech., E. Pakistan Agric. Univ., Mymensingh]
The effects of corn sugar (Cerelose brand) on the colour properties, texture qualities and flavour acceptability of 5 different canned vegetables (peas, sliced beets, lima beans, cut yellow beans and whole kernel corn) were studied. Canned vegetables were processed with brine solutions containing various proportions of sucrose and Cerelose at 2 different levels of sugar solids (2.5 and 5.0%). Measurements of drained wt., texture and colour were made after the equilibration of the canned vegetables at 40°F and 90°F for various periods. The drained wt., and shear press readings of certain vegetables were increased when corn sugar was used in the brine. Hunter colour values L (lightness), aL (redness) and bL (yellowness) of all the vegetables were affected when sucrose was replaced by dextrose in the brine. Dextrose caused slight to moderate effects when used at 25% replacement of sucrose and greater effects when used in quantities up to 100% replacement. The flavour of the canned vegetables was affected but little by the presence of dextrose in the brine. AS

10 M 1083
Laevulose-containing corn syrups for the baker.
Redfern, S.; Hickenbottom, J. W.
Bakers' Digest **46** (2) 26-27 & 30-31 (1972) [6 ref. En] [Fleischmann Lab., Stamford, Connecticut, USA]
The properties and uses of laevulose-containing corn syrups and other sweeteners are reviewed and compared. Information is given on commercially available dry and liquid sweeteners, their relative sweetness value and composition, critical handlin data, effect of sweeteners on proof time in continuous mix bread, and sweet dough absorpti corrections for inversion of sucrose. The main functions of sweeteners in fermented doughs and bread, and in non-yeast leavened products, toget with cost considerations are discussed. OA

10 M 1121
Baked goods additives.
Frankenfeld, J. W.; Karel, M.; Labuza, T. P. (Es Research & Engineering Co.)
United States Patent 3 667 694 (1972) [En]
1,3-diols and 1,3,5,x-polyols are employed as dough conditioners, anti-staling agents and preservatives. IFT

10 M 1122
Improved flour.
Frankenfeld, J. W.; Karel, M.; Labuza, T. P. (Ess Research & Engineering Co.)
United States Patent 3 667 965 (1972) [En]
Baked flour compositions having excellent anti- staling properties are produced by incorporation o aliphatic polyalcohols such as 1,3-diols and 1,3,5,x polyols. IFT

10 M 1133
Yeast-raised products.
Centolella, A. P.; Razor, B. G. (Miles Laboratori Inc.)
United States Patent 3 667 966 (1972) [En]
Dough characteristics of yeast-raised baked products are improved by incorporation of a polyester of citric acid and sorbitol. IFT

10 P 1520
Lactose: one of nature's paradoxes.
Birch, G. C.
Journal of Milk and Food Technology **35** (1) 32-3 (1972) [11 ref. En] [Nat. Coll. of Food Tech., Weybridge, Surrey, UK]
The author discusses lactose with respect to its occurrence in the milk of various species, its physiological characteristics, the possible ill-effects it can have when ingested by humans and animals, and its uses in the food industry. DMK

10 P 1554
Contribution of specific saccharide fractions of co syrup to the syrup flavour of ice cream mix.
Eskamani, A.; Leeder, J. G.
Journal of Food Science **37** (2) 328-330 (1972) [11 ref. En] [Dept. of Food Sci., Rutgers St Uni of New Jersey, New Brunswick, 08903, USA]
Saccharide components of a 43/36 dextrose equivalent (DE) corn syrup were isolated in quantity into 3 fractions: (i) was soluble in 95% ethanol, while (ii) and (iii) were groups of fracti separated by gel permeation chromatography on Bio Gel P-2. Group (ii) contained saccharides of ≥DP 10, while (iii) included those of DP 1-4 together with some higher saccharides. 5 ice crea mixes containing 11% milk SNF, 11% milk fat a

5% sweetener were made. The control contained ucrose as the only sweetener, the standard mix had 0% of the sucrose replaced by 36 DE corn syrup, nd in the remaining 3 mixes, 40% of the sucrose as replaced by (i)-(iii), respectively. Organoleptic ssessment of 10% solutions of (i)-(iii) and the corn yrup compared to sucrose solutions showed a gnificant statistical difference between them: (i) as ranked as closest in sweetness to sucrose; (ii) anked least sweet 80% of the time; (iii) ranked idway between the sucrose and corn syrup. Of the e cream mixes, (i) had the most pronounced yrup" flavour. For the other sweeteners, the syrup avour score results differed significantly from the weetness results. (ii) ranked 3rd 88% of the time, ii) ranked last 88% of the time, with the corn syrup ix ranking 2nd. JR

0 P 1569
Lactic acid milk beverage.]
ugita, M.
apanese Patent 15 730/72 (1972) [Ja]
A defatted milk composition previously cultured ith Lactobacillus acidophilus is inoculated with L. asei and, after additional cultivation, is combined ith a sweetening agent. IFT

0 P 1619
ew imitation cheeses are versatile.
ietz, J. H.; Ziemba, J.
ood Engineering **44** (7) 60-61 (1972) [En] [Int. enture Res. Div. of Peavey Co., Chaska, linnesota, USA]
The production of low-cost imitation Cheddar nd blue cheeses is outlined. The major dry ngredients, wheat flour, solids (whey, buttermilk nd corn syrup) and soy flour, are weighed, and onveyed into a 500-lb capacity blender. Melted hortening is then added along with minor ngredients (salt, imitation cheese flavour, xanthan um, food colouring etc.). The batch is thoroughly lended for ~15 min; it is then bottom-discharged o a vibrating hopper. From the hopper the dry mix s passed into a modified meat grinder fitted with a late containing twenty-four ¼ in. square dies and a ouble-bladed rotary knife. Extrusion is at the rate f 400-500 lb/h. The ¼" cubes discharged from the xtruder are cooled and bulk-packaged in olyethylene-lined corrugated cartons. The cubes re already being used in salad garnishes. Potential pplications include baked goods and dressings. B

0 R 585
Fish paste.]
keuchi, T.
apanese Patent 15 728/72 (1972) [Ja]
Gelling of boiled fish paste compositions during old storage is prevented by elution of actomyosin rom the ground fish mixture and addition of 8-15% orbitol. IFT

10 T 531
[Colorimetric determination of cyclohexylamine in commercial sodium cyclamate.]
Takamura, K.; Tanimura, A.
Bulletin of the National Institute of Hygienic Sciences [Eisei Shikenjo Hokoku] **87**: 67-68 (1969) [3 ref. Ja, en]
Contents of cyclohexylamine in commercial sodium cyclamate were determined colorimetrically by the quinhydrone method. Contents ranged from 7.5 to 65.5 ppm (mean 25.3 ppm). AS

10 T 540
[Method of producing mayonnaise.]
Mikhailina, A. G. (Vsesoyuznyi Nauchno-Issledovatel'skii Institut Zhirov ~VNIIZH~)
USSR Patent 319 313 (1971) [Ru]
Powdered mayonnaise is produced by dissolving sodium bicarbonate, sodium hydrogen phosphate, invert sugar, mustard powder and dried skim-milk in water, and pasteurizing this mixture. After cooling to ~60°C, fresh eggs are added, and then the temp. is raised to 63-65°C and maintained for ~30 min. The mixture is then cooled to 30-35°C and vegetable oil, salts of citric or ascorbic acid and milk fermented with lactic cultures, are added. Finally, the product is homogenized, dried, and aseptically packaged. The powdered mayonnaise preserves its physical, chemical and organoleptic qualities during long storage, e.g. 11-12 months. W&Co

10 T 555
[Low calorie sweeteners.]
Hayashibara Co. Ltd.
Japanese Patent 13 699/72 (1972) [Ja]
Low calorie sweetened foods and beverages are prepared using maltitol derived from the hydrogenation of maltose. IFT

10 T 580
Sodium-free salt substitute.
Cumberland Packing Corp.
British Patent 1 275 540 (1972) [En]
Salt substitutes comprise mixtures of potassium and/or ammonium chloride, cream of tartar, and lactose or dextrose. IFT

11 A 487
Perceptual attributes of the taste of sugars.
Moskowitz, H. R.
Journal of Food Science **37** (4) 624-626 (1972) [6 ref. En] [Pioneering Res. Lab., US Army Natick Lab., Massachusetts 01760, USA]
Equally sweet concentrations of sorbitol, glycerol, arabinose, xylose, galactose, sorbose, maltose, lactose and sucrose were compared to the flavour of glucose and fructose. Tasters were asked to make "magnitude estimates" on a ratio scale, of the overall "flavour difference" between equally sweet concentrations of different sugar pairs. The median estimates were analysed by a nonmetric, multi-dimensional analysis that placed the sugars into a geometrical space, so that the flavour difference between sugar pairs corresponded to their distance. Two dimensions were apparent in

the perceptual space, the dimensions of viscosity-fluidity and primarily sweet taste vs. sweet and side tastes. The distribution and variability of sugars in the space was maximal at high sweetness levels and minimal at low ones. IFT

11 G 521
Sugarless confections for diabetics.
Slawatycki, A.
Confectionery Production **38** (4) 194-195 & 211 (1972) [En]

Preparation of substitute 'sugar cubes' using fructose is discussed. Fructose has a sweetening power 15% greater than sucrose but is extremely hygroscopic. Compressed fructose tablets can be prepared in an air conditioned workroom, held between 10 and 20°C and 20 and 40% RH. Recipes and methods for preparing various diabetic tablets, including a yoghurt tablet, are given. VJG

11 H 1753
Diabetic beverage.
Briggs, J. H.; Pryor, J. S.; Fryers, G. R.
British Patent 1 279 392 (1972) [En]

Sugar-free beverages containing glycerol as an energy source and as the sole sweetening agent are described. IFT

11 L 836
How to make sugar confectionery using invert sugar or acids without the use of glucose syrup or reduced amounts of glucose syrup.
Silesia Gerhard Hanke KG
Confectionery Production **38** (4) 199, 201-202 & 204; (5) 247-248, 250 & 258 (1972) [En] [4041 Norf, German Federal Republic]

A historical review and an outline of modern cooking methods are given. The following aspects are then considered: the cooking of high boilings in general and also using raw materials to replace glucose syrup; cooking with the addition of cream of tartar; production of standard invert-sugar using phosphorous acid; invert sugar syrup produced by addition of lactic or citric acid; invert syrup, produced by addition of chemically pure HCl, free of As, having 80% sugar content; basic rules for the use of glucose syrup, standard invert sugar and cream of tartar for sugar boiling using different cooking methods. For the latter, reference is made to the Silesia Confiserie Manual No. 1, Handbook for the Sugar Confectionery Industry [see FSTA (1970) **2** 3L146]. VJG

11 T 585
[Effect of some antioxidants, dyes and artificial sweeteners on metabolic processes of animal cells in vitro. II. Effect of dyes and artificial sweeteners.]
Kugaczewska, M. M.; Krauze, S.
Roczniki Panstwowego Zakladu Higieny **23** (2) 165-171 (1972) [10 ref. Pl, ru, en]

The food dyes azorubin, Orange Yellow S, indigo carmine, Brilliant Black BN, New Coccine, amaranth, Acid Yellow, tartrazine, and Sudan G were tested as described in the preceding abstr. Only the 1st 3 did not influence endogenous oxidation processes. Of the sweeteners investigated saccharin inhibited, and dulcin and potassium cyclamate stimulated, O_2 uptake. SKK

11 T 605
[Lipid metabolism in sodium cyclamate and sodium glutamate fed rats.]
Yu, K. W.
1563dc **7** (2) 705-711 (1970) [35 ref. Ko, en] [School of Public Health, Seoul Nat. Univ., Korea]

Effect of sodium cyclamate, and sodium glutamate on lipid metabolism was investigated. The animals were divided into 5 groups including 2 sodium cyclamate (one fed 1500 mg/kg/day and the other 300 mg/kg/day), 2 sodium glutamate (one fed 6 g/kg/day and the other 3 g/kg/day) and one control group. Total serum cholesterol, phospholipid and triglyceride contents were generally higher in the sodium cyclamate-fed rats particularly those fed high levels, than in the control group. Total serum cholesterol and triglyceride contents of rats fed high levels of sodium glutamate were higher than in the control, but unchanged in those fed low levels of sodium glutamate. Triglyceride content of the liver of sodium cyclamate-fed rats was higher than in the control, and the increase was significant at the high level. KoSFoST

11 U 745
Peanut butter.
Standards Association of Central Africa
Central African Standard **CAS No. S31: 1971**
17pp. (1971) [En] Price $0.90 [PO Box 2259, Salisbury, Rhodesia]

This specification covers the requirements for smooth and crunchy peanut butter. Ingredient requirements cover: condition of ingredients, peanuts, salt, sweetening ingredients (sucrose, dextrose, liquid glucose, invert sugar, honey), and preservatives (antioxidants). General requirements include: ≥90% peanut content; good flavour and aroma, typical of freshly roasted peanuts, free from staleness, rancidity and objectionable flavour and odour; good bright colour, typical of roasted peanuts; suitable stabilization to minimize oil separation; and free from foreign matter, dirt and inorganic residue, and fairly free from brown/black seedcoat particles and scorched or discoloured peanut tissue. Requirements are listed for texture, microbiology (including aflatoxins), containers (types and condition), packing and processing (filling, exterior of containers, storage), labelling and marking, and sampling. Appendices give methods for determination of vacuum and net mass of contents, fill of container, and aflatoxin, and for incubation for microbiological examination. JA

A 548
ethod for producing portions of instant coffee or a.
ssmar, S. E.
wedish Patent Application 338 227 (1972) [Sv]
Coffee or tea concentrate powder is blended with fat which is solid or semi-solid at room temp. and ontains 1-20% of non-toxic emulsifier, or with a tty acid of similar consistency plus an equivalent mount of substance which forms a water-soluble lt with the fatty acid. The proportion of the fat or tty acid in the concentrate may be 2:1 to 1:3 by t. Uniform portions, e.g. tablets or cubes, may be rmed of a composition which is solid at room mp. Alternatively, a semi-solid composition may packaged in tubes. The compositions may also ntain a bactericide, sweeteners, flavourings and ditives such as cream or milk powder of ubstitutes. W&Co

B 113
almonellae study focuses on variables affecting eat resistance.
oepfert, J. M.
andy and Snack Industry **137** (1) 42, 44 & 86 972) [En] [Food Res. Inst., Univ. of Wisconsin, Iadison, USA]
This report describes research activities carried ut at the University of Wisconsin between May 970 and April 1971 on the influence of sorbitol, ructose and invert sugar and of combinations of weeteners on the heat resistance of salmonellae nd Escherichia coli, and investigations on the heat esistance of salmonellae and E. coli in complex ixtures. VJG

2 G 565
Sweetening composition for dietary or therapeutic se.]
wenicki, J.
rench Patent 2 081 997 (1971) [Fr]
A sweetening composition comprises 1.7% by wt. f benzoic sulphimide, e.g. saccharine, and 98.3% ccharose. It may also contain soluble excipients. is obtained by dissolving the constituents in water nd partially freeze-drying them. The product has a w calorie content but does not leave the after-ste of saccharine. W&Co

2 G 599
ole of macromolecules in the development of hewing gum.
aijal, M. D.
bstracts of Papers. American Chemical Society **64**: AGFD 38 (1972) [En] [Four Walnut Street, ye, New York 10580, USA]
Chewing gum is a food composite of gum base, ineral filler, sweetner, and flavor. The structure of um base determines to a large extent the roperties of chewing gum. Gum bases have been repared from natural resins, natural and synthetic esins plus additives, synthetic resins plus additives, nd synthetic resins. The additives primarily function as plasticizers. The structure of macromolecule used in the preparation of gum base has a strong influence on the mechanical-rheological-textural characteristics of chewing gum. It is the purpose of this article to review the role played by macromolecular systems in the development of chewing gum. AS

12 G 603
New way to "dress up" foods.
Rapp, H.; Ziemba, J. V.
Food Engineering **44** (5) 54-56 (1972) [En] [Marschall Div., Miles Lab. Inc., Elkhart, Indiana 46514, USA]
Blends of corn syrup, invert sugar, carrageenan, colorants and flavouring agents are formed into textured, ready-to-use pieces, called CAFS. The pieces are used as replacements for fruits and confections in baked foods or ice cream. They withstand baking and freezing, are stable, and cost less than regular fruits. Flavours available include blueberry, cherry, lemon, lime, pineapple, strawberry, peach, mint, melon and chocolate. WHCA

12 H 1853
High fructose corn syrup in carbonated beverages.
Wardrip, E. K.
American Soft Drink Journal **127** (921) 21-23 (1972) [En] [Product Development & Res., Clinton Corn Processing Co., Div. of Standard Brands Inc., Clinton, Iowa, USA]
A high fructose corn syrup (HFCS) made by using an isomerising enzyme to convert dextrose to fructose is now being marketed as a total sweetener for carbonated soft drinks. Analyses showed a typical composition of 92% monosaccharide consisting of 50% dextrose and 42% fructose which is similar to commercially marketed total invert syrups. At 71% solids the syrup can be stored at temp. between 75° and 90°F with no crystallization of dextrose and no significant colour development caused by the fructose. Resistance to microbiological contamination was greater for HFCS than for a bottlers' grade medium invert syrup (MIS). Flavour analysis showed HFCS to have "fewer inappropriate notes" than either MIS or sucrose, and to be equal to or sweeter than comparable sucrose solutions. The syrup has been used in colas, lemon-lime, root beer and fruit flavoured beverages, and storage tests showed the drinks to be equal in all respects to sucrose sweetened controls after 6 months. Data for analyses are given. PG

12 H 1868
Colorimetric determination of cyclamate in soft drinks, using picryl chloride.
Saturley, B. A.
Journal of the Association of Official Analytical Chemists **55** (4) 892-894 (1972) [6 ref. En] [Beecham Products, Res. & Development Unit, The Royal Forest Factory, Coleford, Gloucestershire, UK]
Cyclamate is converted to cyclohexylamine,

which is extracted from the soft drink sample with chloroform. The cyclohexylamine extract is then coupled with picryl chloride to produce a coloured complex with a max. absorption at 418 nm. AS

12 H 1919
[Non-alcoholic beverages.]
Anon.
Revue de la Conserve Alimentation Moderne **1972** (5) 35-43 (1972) [Fr]

A study of non-alcoholic drinks in France covers the following points: the general situation and price considerations; lemonade, fruit juices and similar drinks, e.g. cola; use of mineral water sources in their preparation; distribution system; preference of town dwellers for cola drinks; present popularity of fruit drinks containing 10-12% concn. fruit juice; control and classification of different types; insufficiency of statistical information on these drinks; use of grape juice, preservatives, dyes and sweetening agents; and possibility of discovering new products. In 1969 of the total amount of non-alcoholic beverages consumed, 41% was lemonade, 12% fruit drinks, 46% tonics, colas and bitters and 1% non-carbonated drinks. LA

12 L 908
Sugar and disease.
Yudkin, J.
Nature (London) **239** (5369) 197-199 (1972) [6 ref. En] [Queen Elizabeth College, Univ. of London, UK]

The possibility of links between dietary sugar intake and occurrence of some diseases is reviewed and discussed under the headings: Effects of sucrose; Dental caries; Dyspepsia; Seborrhoeic dermatitis; Eyes (myopia); Sucrose and protein deficiency; Diabetes; Ischaemic heart disease; Gout; and Sucrose, hormones and enzymes. HBr

12 L 917
The influence of raw materials on the taste of confectionery.
Eijk, A. van
Flavour Industry **3** (7) 348-352 (1972) [1 ref. En] [Flavour Application Lab., Givaudan Dubendorf, Switzerland]

Consideration is given to the incluence of the following raw materials on taste: sugar, sugar substitutes, food acids, fats, binding agents and emulsifiers, water and air, softening agents, and flavour enhancers. VJG

12 L 932
Levulose and invert sugars.
Moroz, R. D.; Sullivan, J. P.; Troy, J. P.; Broeg, C. B
Abstracts of Papers. American Chemical Society **164**: INDE 39 (1972) [En] [Applied Sugar Lab. Inc., 120 Wall Street, New York, New York 10005, USA]

The development and use of invert sugars and levulose in food industries are reviewed. Physical and chemical properties of these sugars are related to their applications in both food and non-food industries. Production methods, distribution and consumption in various fields are shown in relationship to other products with which they complete. The impact of "invert sugar" produced from starch hydrolysates by enzymatic catalysis is evaluated. Levulose has been commercially for many years as one of the components of invert sugar but its position in the food industries has not been widely assessed even though commercially available at present. AS

12 L 936
New starch hydrolysates spur product development
Murray, D. G.; Ziemba, J. V.
Food Engineering **44** (5) 88-90 (1972) [En] [Grain Processing Corp., Muscatine, Iowa, USA]

5- and 30-DE (dextrose equivalent) spray-dried corn starch hydrolysates and 36- and 42-DE high-maltose corn syrup solids are described. The DE, max. moisture (%), pH, bulk density, dextrose, maltose, maltotriose, and tetrasaccharide contents, sweetness, and solubility (80°F) are given for 10 starch hydrolysates. Uses in frozen chicken chow mien, frozen cheese and white sauces, doughs, frozen cakes, freeze-dried citrus powders, and new coating uses are described briefly. High dextrin contents are used to increase viscosity and reduce sweetness, while high maltose solids reduce browning and stabilize moisture equilibrium. WHCA

12 L 954
Process for the production of fructose syrup from Centaurea behan L.
Ahmad, N.; Parveen, S.
Pakistani Patent 120 262 (1972) [En]

Powdered Centaurea behan is heated with water the resulting solution is centrifuged, the filtrate cooled, and the inulin precipitate washed, dried and then hydrolysed. The fructose solution obtained is filtered and conc. under high vacuum. W&Co

12 L 955
[Physiological effects of the sugar alcohol xylitol.]
Physiologische Wirkungen des Zuckeralkohols Xylit
Bassler, K. H
Süsswaren **16** (8) 327-330 (1972) [48 ref. De]

The physiological effects of xylitol are discussed from the following viewpoints: endogenous metabolic intermediary products; metabolism of exogenous xylitol; resorption and distribution; compatibility; and effects on various organs. Xylitol can replace glucose from both energy and functional aspects. IN

L 956
**west natural sweetener: dextrose-levulose syrup
m dextrose.**
ni, E. R.; Smith, R. J.
d Technology **26** (9) 57-59 (1972) [20 ref.
[Biochem. Res. Dept., CPC International Inc.,
ffett Tech. Centre, Box 345, Argo, Illinois
01, USA]
The development of a commercially feasible new
trose-laevulose syrup by the enzymatic
merization of dextrose has been achieved by
C International Inc., Argo, Illinois. This syrup
n dextrose is a purified aqueous solution
taining 45% laevulose and is chemically and
ctionally comparable to traditional syrups. The
v material used is domestic corn. The syrup
vides a new source of sweetener equivalent in
ritive value and microbiological stability to
lbohydrate sweeteners presently available in the
A. AA

T 652
ificial sweeteners.
gett, J. J.; Hoerres W. E.
ited States Patent 3 684 529 (1972) [En]
Artificial sweetening composition of saccharin
s glucono-δ-lactone and sodium gluconate in
cial proportions are described. IFT

T 653
ipeptide sweetener.]
hlmans, J. J.; Boesten, W. H. J. (Stamicarbon
V)
therlands Patent Application 7 012 897 (1972)
l]
α-L or DL-asparagyl-L or DL-glutamic acid α',γ'-
lkyl esters are suitable as synthetic sweeteners
food products, A sweetener may be produced
reacting N-carbobenzoxy-asparagic acid
hydride with a glutamic acid dialkyl ester or one
its salts in an inert polar organic solvent.
eferred are α-asparagyl-glutamic acid α',γ'-dialkyl
ers having 1 - 3 C atoms in the ester alkyl group.
e respective dimethyl ester has a sweetening
wer ~100 times that of sucrose. W&Co

T 654
ipeptide sweetener.]
hlmans, J. J.; Boesten, W. H. J. (Stamicarbon
V)
therlands Patent Application 7 012 898 (1972)
l]
α-L or DL-asparagyl-L or DL-asparagic acid α',β'-
lkyl esters are suitable as synthetic sweeteners
food products. A sweetener may be produced
reacting N-carbobenzoxy-asparagic acid
hydride with an asparagic acid dialkyl ester or
e of its salts in an inert polar organic solvent.
eferred are α-asparagyl-asparagic acid α',β'-
lkyl esters having 1 - 3 C atoms in the ester alkyl
oup. The respective α',β'-dimethyl ester has a
eetening power ~75 times that of sucrose.
&Co

12 T 655
[Dipeptide sweeteners.]
Dahlmans, J. J.; Boesten, W. H. J. (Stamicarbon NV)
Netherlands Patent Application 7 012 899 (1972) [Nl]
α-asparagyl derivatives of glycine-alkyl esters having a phenyl or cyclohexyl group at the α C atom are suitable as sweeteners for food products. A sweetener may be produced by reacting N-carbobenzoxy-asparagic acid anhydride with the above ester, preferably L-glycine methyl ester, in an inert polar organic solvent. The yield is satisfactory and the anhydride is relatively inexpensive to produce. Preferred is the α-L or DL-asparagyl derivative of an L or DL-glycine alkyl ester. Preferably, both amino acid groups are in the L form, and the alkyl ester group is a methyl group. A-L-asparagyl-L-phenyl-glycine methyl ester has a sweetening power 175 times that of sucrose. W&Co

12 T 656
[Cyclamate sweetener.]
Sankyo Chemical Industries Ltd.
Japanese Patent 24 749/72 (1972) [Ja]
Sodium cyclamate pellets are produced without binding agents by extruding flake-like crystals of the sweetener at controlled condition of pressure and temp. IFT

12 T 657
[Artificial sweeteners]
Ajinomoto Inc.
Japanese Patent 23 389/72 (1972) [Ja]
Taste of artifical sweeteners is improved by the incorporation of L-aspartyl-L-phenylalanine esters. IFT

12 T 658
[Artificial sweeteners.]
Yamada, S.
Japanese Patent 23 390/72 (1972) [Ja]
An artifical sweetener of improved flavour is produced by concentrating the mixture obtained by reacting sodium saccharin with sodium cyclamate in acid solution under reduced pressure. IFT

12 T 665
Sugar substitutes.
Eijk, A. van
Food Industries of South Africa **25** (2) 7, 9, 11 & 13 (1972) [17 ref. En] [Flavour Application Lab., Givaudan Dübendorf AG, Switzerland]
The phenomenon of sweet taste prerception and the classes of sugar substitutes in current use, are briefly discussed. 3 methods of correcting the flavour of sugar substitutes, namely synergy, using inorganic and organic salts and acids, and using flavour reinforcing substances, are outlined. Flavour correction of sugar alcohols is also considered. VJG

12 T 670
Structure-taste relationships with new methyl 4,6-o-methylene derivatives of D-glycopyranosides.
Goodwin, J. C.; Hodge, J. E.
***Abstracts of Papers. American Chemical Society* 164:** CARB 17 (1972) [En] [N. Regional Res. Lab., USDA, 1815 N. Univ. St., Peoria, Illinois, 61604, USA]

Methyl 4,6-O-methylene-D-glycopyranosides of α-D-altro, α-D-galacto, α- and β-D-gluco, and α-D-manno configurations were prepared to investigate the spacing requirements for glycol groups to elicit sweet taste. Sweet and/or bitter tastes of the unsubstituted methyl glycosides, their 4,6-O-methylene derivatives, and ring-locked 1,6-anhydro-β-D-glucopyranose were evaluated by a taste panel to establish the relationships between hydroxyl conformations, methylene acetal ring configurations, and sweet and/or bitter tastes. AA

12 T 676
[Organoleptic problems of substitutes for sugar in foods.] Austausch von Zucker durch Zuckerersatzstoffe in Lebensmitteln: Organoleptische Probleme.
Eijk, A. van
***Ernährungswirtschaft* 19** (6) 410, 412, 414, 416 (1972) [17 ref. De]

The criteria for evaluating 'sweetness' and current sweetening agents are discussed. 3 methods of modifying the taste of sugar replacers are described: via the synergetic effect of 2 sweetening agents; use of organic or inorganic salts and acids; use of specific taste-modifying substances. Food legislative aspects are also discussed. IN

12 T 688
Current saccharin actions place added stress on need for a non-nutritive sweetener.
Beck, K
***Food Product Development* 6** (2) 34 & 36-37 (1972) [En]

Current investigations by medical and food toxicology specialists into the toxicity and long range genetic effects of saccharin are briefly mentioned. The following new non-nutritive sweeteners are considered: mirlin from miracle fruit, dihydrochalcones, dipeptides, and monellin from Dioscoreophyllum cumminsii. VJG

12 T 689
Saccharin: future uncertain.
Anon
***Science* 177** (4053) 971 (1972) [En]

Studies on the toxicology of saccharin being made by the Wisconsin Alumni Research Foundation, and FDA laboratories are mentioned. The results are to be reviewed by the National Academy of Sciences. The possibility of saccharin being banned by the FDA is discussed briefly. JN

12 U 788
[Problem area between food-technology and -legislation covering carbohydrate containing foods. Problempunkte zwischen Technologie und Lebensmittelrecht kohlenhydrathaltiger Lebensmittel. [A lecture]
Kammerer, F. X.
***Ernährungs-Umschau* 19** (7) 247-250 (1972) [22 ref. De] [Industriestrasse 8, 8703 Ochsenfurt/Main, German Federal Republic]

Various dietary carbohydrates and sugar alcohol are categorized with reference to terminology and legislative specifications. FAO/WHO and EEC recommendations and regulations are reviewed. OA

12 U 789
Health laws and regulations - Zambia.
World Health Organization
***International Digest of Health Legislation* 22** (4) 1024-1039 (1971) [En] [Geneva, Switzerland]

A selection of Zambian health laws and regulations is presented, including the following which relates to food hygiene: The Proprietary Preparation (Prohibition of Importation or Sale) Order, 1969 (prohibits the importation and sale of cyclamic acid, its salts or any proprietary preparation containing cyclamic acid). VJG

12 U 790
Health laws and regulations - India.
World Health Organization
***International Digest of Health Legislation* 22** (4) 951-967 (1971) [En] [Geneva, Switzerland]

A selection of Indian Health laws and regulations is presented, including the following which relates to food hygiene: The Prevention of Food Adulteration (Amendment) Rules, 1968 (8 July, 1968). This amendment modifies the qualifications required for appointment as a Public Analyst or as a Food Inspector; prescribes categories of food which may be manufactured, sold etc. only under a licence; amends various provisions dealing with food additives; and inserts a new part XIV listing 11 pesticides and their residue tolerance limits. Definitions of and standards for diverse spices, sweeteners, milk and milk products, ice cream, vegetable oils, bread and cereal products are given. VJG

12 U 797
Food Additives and Contaminants Committee report on the review of the Preservatives in Food Regulations 1962.
United Kingdom. Ministry of Agriculture, Fisheries & Food
89pp. SBN 11 240863 x (1972) [En] London, UK: H.M. Stationery Office. Price 57p

A review of the Preservatives in Food Regulations (S.I. 1962 No. 1532) is presented

bjects dealt with include: Antibiotics i.e. ulations concerning the use of tetracyclines, in, nystatin and pimaricin; Applications for servatives not currently permitted, which should rejected, these being, octyl gallate, formic acid, xamethylenetetramine, nordihydroguaiaretic d, metatartaric acid, mixture of fumaric acid and dium benzoate; benzoyl peroxide and diethyl rocarbonate; The currently permitted servatives and extended uses i.e. sorbic acid, O_2, benzoic acid, para-hydroxybenzoates, opionic acid, diphenyl, copper carbonate, ortho-enylphenol and its esters, and formaldehyde; O_2 when used in packing food; Thiabendazole; hylene oxide; Nitrate and nitrite in food; and servative in beer. Also covered are: definitions sauces, sausage and sausage meat, flavouring rup and flavouring emulsion, sugars and glucose rup, and flour confectionery; use of preservatives canned tomatoes and canned fruit; preservatives ntent of glucose drinks; waxing of fresh fruit; and belling of preservatives. Summaries of the mmittee's conclusions and recommendations are bulated. The following 3 appendices are included: ist of organisations who gave information or made presentations; Specifications for reservatives in food; and Programme of research to nitrosamines, nitrates and nitrites. 2 annexes tail the Report of the pharmacology sub-mmittee and the Report of the antibiotics panel. A

2 U 804
Update of international food additive legislation.
Martin, C. R. A.
Food Manufacture **1970** (march, Ingredient Survey) 54, 56 & 59 (1970) [1 ref. En]
New food additive (artificial sweeteners, antioxidants, colours, flavourings, emulsifiers, stabilizers, preservatives, improvers, etc.) legislation in various countries during 1969 is reviewed together with recommendations of the FAO Food Additives and Contaminants Committee. AS

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3.	Natural and Synthetic Sweeteners	338	£3.50	☐	198	£2.00	☐	£6.0
4.	Techniques for Analysis of Flavour Volatiles	367	£4.00 *	☐	237	£2.50	☐	£7.0
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6.	Texture Analysis of Foods	426	£4.50 *	☐	429	£4.50	☐	£11.0
7.	Synthetic Dairy Products	150	£2.00	☐	88	£2.00	☐	£4.0
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11.	EEC Regulations	55	£2.00	☐	64	£2.00	☐	£4.0
12.	Toxicology of Food Additives	118	£2.00	☐	106	£2.00	☐	£5.0
13.	Deep Fat Frying	400	£4.00	☐	248	£2.50	☐	£7.0
14.	Viscosity of Foods	399	£4.00	☐	212	£2.50	☐	£7.0
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